NEW-YORK FARMER,

AND AMERICAN GARDENER'S MAGAZINE.

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D. K. MINOR, Proprietor.] FOR OCTOBER, 1833. [SAMUEL FLEET, Editor.

ORIGINAL COMMUNICATIONS.

Raising Forest Trees. By Indian. [For the New-York Farmer.]

Mr. Editor,—Sir: Much has been said and urged for the last twenty years about the necessity of planting out *forest trees.* I have given considerable attention to the subject for several years past, and have imported all the late publications from England to gather information on the subject. There is, however, annexed, a communication published by the Massachusetts Agricultural Society, (which reports were presented me by that indefatigable friend and supporter of agriculture, whose shoulder and purse have, through a long series of years, been always at the command of those wishing to benefit the agricultural cause by publication or machinery, Gorham Parsons, Esq. of Oakland Farm, Brighton, Mass.) which I think well deserves a republication, as no description can now be given of procedure more appropriate than that described by Col. Dodge, who was personally known to me, and who lived more than twenty years after the date of his communication to see a fine forest, where he planted the small nuts and acorns. It, moreover, ought to be remembered that this was probably the first attempt to plant forest trees in this country, and that, too, by a man who fought at Bunker Hill, and lived to see the tree of liberty expand, as also the fine forest he planted, after he turned his sword into a plough-share, and his spear into a pruning hook. Yours, &c. Indian.

"On raising Forest Trees from Seed.—A communication addressed to the Trustees of the Massachusetts Society for Promoting Agriculture, by Col. Robert Dodge, of Ipswich. The Society's premium of 100 dollars, or the gold medal, was adjudged to the author for his exertions.

"The annual consumption of wood, in this part of the country, greatly exceeds the annual growth. Fuel, which is of the first necessity, is become one of the most expensive articles in the support of a family—and the demand and price of timber for building and mechanical purposes, are, every year, increasing. The publication of the Massachusetts Society for promoting Agriculture being put into my hands in September, 1797, stimulated by the premiums offered by the trustees, and the hope of encouraging similar attempts, I determined to turn my attention to the cultivation of white oaks and other forest trees.

"Conceiving that I was possessed of land well adapted to the growth of forest trees, I made choice of a piece of ground on the northern side of a hill, or high swell of land, and pretty near the summit, from which there was a gradual descent in every direction. It had formerly been covered with a very heavy growth of white and yellow oak, and the different kinds of walnut or hickory, growing native in this part of the country. For many years past it had been improved as a pasture, having several trees of the ancient growth scattered over and still standing upon it. The piece of ground on which I proposed to make the experiment contained about two acres, and was, for the first time, ploughed up two years before, and in each of the preceding years planted with Indian corn. The native soil is a pretty deep rich mould, inclined to moisture, and very rarely pinched with drought. Detached rocks of different sizes are scattered over it. The two acres were inclosed with a good fence, for the purpose of forming a forest tree nursery. It was then ploughed once, and harrowed sufficiently to render the mould light and fine, and furrowed both ways, viz. at right angles, about four and a half feet distant. On a small part of the ground a little barn manure was put into the angles of the furrows; but on the greater part no manure of any kind was laid.

"The ground having been thus prepared, on the 10th of October, 1797, it was planted in the cross furrows, in the form of hills: a part with white and yellow oak acorns, a part with that kind of walnuts called the shag-bark, a part with chesnuts, and a part with oil-nuts, or white walnuts. Four acorns and four nuts were put in a hill through the whole nursery, and covered about three, and three and a half inches deep.

"The labor in preparing the ground was two and a half days' work of one man and a boy with two pair of oxen, and the man and the boy one day in planting and covering the seed.

"Desirous of varying the experiment, I had another piece of ground, containing one quarter of an acre, of a soil and situation nearly similar, prepared in the same manner. On the first day of November I sowed it by broad strow, with the same kind of acorns and nuts, and with the seeds of white ash, and then harrowed the ground with an iron-tooth harrow.

"Just before the frost set in I examined the hills in the nursery, and found the acorns generally sprouted, and some of the sprouts more than two inches in length. The nuts appeared in the same state in which they were planted. In the spring following, I could find only four of the acorns which had sent up shoots out of the ground, and the nuts did not swell sufficiently to burst their shells. But those sowed by broad strow came up pretty well, and I had them transplanted into a part of the nursery. From these circumstances I concluded that the acorns and nuts planted in the nursery were put into the ground too early in autumn, and were covered much too deep.

"Disappointed in the first attempt, I was still determined to make another trial on the ground inclosed for a nursery. In the latter part of October, 1798, I ploughed, harrowed, and furrowed it just as I had done the preceding autumn; and on the first day of November I planted in the cross furrows, as before, white and yellow oak acorns, shag-bark walnuts, chesnuts and oil-nuts, and covered them, excepting four rows, much lighter than the preceding year. The acorns and nuts came up very well, excepting the four rows, which were covered about three inches deep. In these rows very few appeared in the spring. By this and similar experiments made since, I have found that both acorns and nuts vegetate best when only covered over so lightly as that no part of them can be seen above the surface. On the same day I planted a small quantity of the seeds of the elm collected at the time of the seeds falling, which came up remarkably well.

"To extend the experiment, I prepared a separate piece of ground, by ploughing and harrowing it, as I had done in the nursery. On the 2d of November, I sowed by broad strow, about five hundred of the shag-bark nuts, and left them on the surface of the ground uncovered. As soon as the frost was out in the spring sufficiently to admit the plough, which was about the last of March, or the first of April, I ploughed them in very lightly. The nuts soon sprouted, and about the middle of May appeared above the surface. Most of them vegetated and came up far better than any of the other nuts or acorns.

"Care has been taken to keep all the forest trees pretty clear of weeds. The nursery has been ploughed and hoed three and four times in the course of each summer, but no hills have been raised about the trees. The labor in tending the ground has been about the same as tending so much Indian corn, and the ploughings and hoeings about the same time in the summer.

"The growth of the shag-bark walnuts has been remarkably slow. The acorns grew considerably the two first years, but the last summer they appear to have increased somewhat in size, most of them very little or none at all in height; some of the largest, however, have produced luxuriant tops. The chesnuts, oil-nuts, and elms, have grown well. Of all the kinds the white ash has much exceeded in rapidity of growth.

"In the last autumn, I had growing upwards of four thousand and two hundred trees, from all the kinds of acorns, nuts and seeds, which I had planted. But my nursery, which was on sloping ground, was greatly injured by an unusually heavy rain, just before the frost set in. The fall of rain was so great as to occasion several strong currents of water, which produced deep gullies through the longest direction of the ground. By this unfortunate circumstance, more than six hundred trees were torn up and destroyed.

"There are now growing (Oct. 13, 1801) from the acorns, nuts and seeds, which I have planted, which are three and four years old this autumn, from the time of planting, two thousand seven hundred and ninety-two white and yellow oaks, four hundred and twelve

shag-bark walnuts, forty-eight oil-nuts, one hundred and ten chesnuts, two hundred and thirty-nine elms, and forty-one white ash. The whole number, three thousand six hundred and forty-two. (Signed) R. DODGE.

Hamilton, Ipswich, Mass.

Superior Composition for Trees. Extract of a Letter from Hon. J. K. GUERNSEY, of Pittsford, to Wm. Prince & Sons. [Communicated for the New-York Farmer and American Gardener's Magazine.]

I avail myself of this opportunity to send you the following statement, respecting the Composition for Trees.

Many inoculated trees are greatly injured, and finally lost, in consequence of the length of time necessary to heal over the stock, where it is cut off, when no means are used to secure it from exposure to the air and wet.

The wood dies down to some distance, and although, after a time, bark and new wood may grow over, it finally rots, and destroys the tree. The same is true of large limbs cut off, and of bark knocked off by accident. To prevent this the following cheap and easily applied composition is the best remedy I have found. I have used it for more than 20 years, with almost uniform and perfect success.

RECIPE.—One part, say one quart, common tar. Two parts, say two quarts, chalk, finely pulverized, and sifted. Put the tar into an iron kettle; heat it, and whilst hot, stir in the chalk. Care should be taken not to boil it too much, either when first made or when using it, as that will make it too hard and brittle. Should it by accident become so, add tar, till sufficiently soft. When to be used, heat it over either an earthen or iron portable furnace, or fire made on the ground on or near the place where wanted, so as to boil, or to be sufficiently soft, which a little experience will show, and apply it with a small wooden or iron spatula, covering the wood entirely with a thin coat, and leaving no place for the water to get under the composition. It will remain on for years, but may be taken off whenever the bark shall have grown over the wood. It will be found upon examination that there is no dead wood under it. Any one who delights in seeing fine healthy trees, after having once fairly tried the experiment, will never abandon its use. It is particularly valuable for covering the stumps when old trees are headed down. This composition was invented, and an account of it published, by some gentleman, either of England or of Scotland, I think Sir Arthur St. Clair, soon after Forsyth first published the account of his composition for healing wounds in fruit trees, which is very troublesome to make, and still more so to use. It is, probably, known to many horticulturists, but ought to be known to all who cultivate fruit trees; and if you think the publication of these remarks will be useful, they are at your service.

Sulphates. By RATIO. [For the New-York Farmer.]

Unde tremor terris?—[VIRGIL.]

MR. FLEET,—Mr. Jemison directs to take 10 lbs. of flour of sulphur; 10 lbs. of iron filings; knead them together with water to the consistence of dough; bury the mess eight or ten feet in the ground. It will take fire, he says, in a few hours, and cause an artificial earthquake. This is, probably, true, and I explain it as follows. The iron filings decompose the water, which is composed of hydrogen and oxygen; the iron is converted into the oxide of iron, and the hydrogen is set at liberty. A part of the oxygen coming in contact with it sets it on fire, which is communicated to the sulphur, and an explosion takes place. Iron pyrites are a combination of iron and sulphur; these, coming in contact with a certain quantity of water, readily take fire. Thus we may account for the volcanoes, earthquakes, and numerous beds of sulphate of lime or plaster of paris, which are always found in the neighborhood of iron and silver.

Yours, &c. RATIO.

Effects of Internal Improvements in increasing Agricultural Produce—Process of Making Cheese. By EPHRAIM PERKINS. To the Editor of the New-York Farmer.

This article is submitted as a demonstration of what can be effected in our country, by community of exertion and enterprise, directed to one staple commodity; and also what extraordinary impulse has been given in a few years to one department of agriculture, in a small section, by the facilities of transportation on the Erie Canal. Heavy produce is transported from Utica to New-York for 25 c. per 100 lbs. on large contracts, this season.

Much public and general inquiry has, of late, been excited, by the rapid increase, extension, and improvement in cheese-making, in a district of about twenty miles in length, and ten or twelve in breadth, chiefly within, and parts of the towns of Salisbury, Norway, Fairfield, Newport, Russia, and Trenton—and of butter-making in the town of Steuben; being the second tier or range of towns on the north side of the Mohawk river, and within the counties of Herkimer and Oneida. A sparse population was spread over all these towns as early as the year 1800, and in 1815 had become a well-settled country, emigrating to the west; and at that period, and even till the completion of the Erie canal, cheese, as an article of commerce, over and above the home consumption, was an item little thought of or known.

It is supposed that less than 60 tons were annually exported from this district at that period, and this was chiefly confined in its manufacture to a few families in Norway. This district is hilly, well watered, and better adapted to grazing than to any other department of agriculture; and, without recourse to records, it is supposed that it may have doubled its population since 1815; and it is now ascertained that in 1832, though an unfavorable season for making, there was exported, the manufacture of this district, more than one thousand tons of cheese, besides twenty-five tons of pine-apple cheese. Mr. H. Burrell, of Salisbury, sold in New-York market near 400 tons of the same. In the art of cheese-making *improvement* has advanced in this district far towards what, in *this* age, is known of perfection, as will be acknowledged or attested by the extensive cheese merchants in New-York, Philadelphia, and the cities south.

Steuben, early settled by that noted Baron, is much inhabited by emigrants from Wales, and their descendants; has long been almost exclusively devoted to butter-making; and, although a small town, sent, in 1832, one hundred and fifty tons of butter to New-York market—which, as an article to keep good in tubs and firkins, stands high in market. Indeed, some small sections of the said cheese district make butter only.

The writer of this article was bred a farmer, and from the year 1806 to 1813 made a cheese dairy on the farm whereon he now lives, from twenty, and some years from thirty cows. Cheese was then a dull article, and he relinquished that business; and again, in 1828, commenced on a cheese dairy of forty cows, and now has, on the same farm, eighty cows. Inquiries are often made as to theory, and statistical facts, pertaining to this subject, from friends and acquaintances, both near and remote, and he has been requested to communicate in writing the modern process of making, as practised by himself and many others, at this day, and also to point out as distinctly as might be, the difference between the former and the latter process. This has been done, by saying that less heat, and some less salt, is applied in the making, and the cheese made softer, and is kept from spreading and cracking, by swathing, soon after the cheese comes from the press. The milk, in warm weather, is not considerably below the warmth of milk directly from the cow. The rennet must be free of taint, and made in such quantity as to last several weeks, that its power can be relied upon to "fetch the cheese," in three quarters of an hour, or be sure in an hour, so as to "break up," which is done with the hands, from bottom to top of the tub or vat, or with an utensil made of fine brass wire, with a sharp iron or brass rim, in squares of three quarters of an inch, like a sieve, with two high bales crossing each other on the top, and reaching above the top of the tub; when broken up, it is then left for a little time, till the curd settles, and the whey rises on the top; then begin to draw or dip off, and of the first put some over the fire, and with it, as soon as may be, gradually increase the warmth in the tub, working off the whey and making fine the curd, endeavoring always so to manage that the whey is as green as possible. It is a conceded fact, that the greener the whey the richer the cheese. If the weather be hot, and there be any appearance of souring in the tub, the process must be hurried, and less heat applied, or the cheese will be hard and dry, and the yield small in proportion. For the last half hour, we have, in warm weather, about milk or animal heat in the tub or vat, and this is called the scalding process, which, if all works well, is done in about two hours from the setting, and ready to dip off into the cheese basket or cinque. It has, I believe, been a general practice to cool off the curd while in the tub, with cool whey or water, or the cheese will be rank, but we do not so; we let the cheese go to the press with its warmth, except what is imparted by making it fine and stirring in the salt, and think it closes better, and needs much less scalding, and is not so liable to be porous and spongy. We put two pounds of dry Onondaga salt to 100 lbs. of curd, pressed and worked so fine and dry that not more than two quarts of whey can be extracted by the press. We choose to have our cheese made so soft as to need swathing the first or second day; and if the weather be very hot, very soon after they come from the press. This is done with cheap cotton cloth, stained with annetto, and dipped in melted lard, and, by some, cased entirely over, there to remain till the cheese goes to market; it is then safe from flies to keep any length of time, if made so as not to leak.

The soft cheese ripens and matures much sooner than the dry hard cheese; the latter will dry much sooner, but maturing and dry-

ing are, or may be, very different. Cheese will shrink two to one in October that it will in August, yet it will ripen and mature three to one in August that it will in October and November.

Many suppose that large cheeses require more time to ripen than small ones, but we think not; the ripening process is of a chemical nature, rather accelerated by increased mass than retarded; as is also the mass of the baker, the brewer, and the distiller, by increased mass.

A very little cheese, made to please a child, will soon become dry, but never have maturity or taste. The coloring, if any, should be of anetto, dissolved in pure strong ley, a spoonful or two of which is sufficient for the milk of a large cheese; let the outside be painted with the same soon after the cheese comes from the press, then dry an hour, and be ointed with lard or butter. We do not darken the room, or attempt to keep out the flies, but depend on the soundness of the cheese to save it from their depredations. In hot weather we open our doors and windows, and give air, but cool dry winds, blowing directly on, will crack the cheese. In spring and fall we keep up a generous warmth, and indeed, in the cool damp days in midsummer, have fire in the cheese room stove, and so greatly accelerate the maturing process.

My sons commenced cheese-making the present year the 15th of April, and before August had three tons of cheese in market, which would have passed well with many, for old cheese, being so ripened. It is found, by actual experiment, that every pound of butter taken from a cheese will shrink the weight of the same about three pounds for one. The experiment of making cheese of milk directly from the cow night and morning has been tried often in this section, but I know of no one who continues the practice. The yield will be greater, but the cheese rank, carrying into it something of that kind of taste peculiar to milk directly from the cow.

The reservoir for the whey, and every other thing that may have tendency to charge the atmosphere with impurity, should be kept at a sufficient distance; and the room where the milk stands over night, well ventilated.

The question is often asked, how much cheese will each fair dairy cow make in a season? and how much in a day will each such cow make at full grass in May? I answer, 300 lbs. is perhaps about an average yield for a fair dairy well kept; but a very choice selection of cows well kept will sometimes exceed 400 lbs. in a season, and one such cow may make four or five pounds in a day, at full grass. We have very few cows of the improved breeds, and very little stock is raised. Many hundreds of cows are brought in annually from a distance, for sale and for use.

EPHRAIM PERKINS,
One of the Com. of the New-York State Agricultural Society for Oneida Co.

South Trenton, August, 1833.

"Living within the above cheese district, I am well convinced that the calculations here made by Ephraim Perkins, Esq. as to the quantity of cheese manufactured in second district, is to be relied on as correct; and his process of making worthy of the attention of those engaged in the dairy business.

W. WILLOUGHBY, M. D.
Late President of the Agricultural Society of Herkimer County."

Quantity of Indian Corn to the Acre. By the Rev. H. COLMAN. [For the New-York Farmer.]

MEADOWBANKS, Deerfield, Mass. 9 Sept. 1833.

MR. FLEET,—Your New-York Farmer for this month was received last evening, and I make no delay in replying to the inquiry of your correspondent E. The farmer to whom I referred, whose crops of corn, for the last ten years, have averaged more than one hundred bushels to the acre, is Earl Stimpson, Esq. of Galway, Saratoga county, N. Y. On a visit to his extraordinary and admirable establishment, in July, of the last year, where every agricultural operation seems to be conducted in the most skilful and systematic manner, he gave me this assurance, as I find noted in my Journal at the time; and I beg leave to inform your correspondent, that to any gentleman of agricultural taste and science, a visit to this farm cannot fail to yield instruction and great pleasure.

Mr. Stimpson's success, however, in the cultivation of this valuable crop, is not singular. Examples of crops as abundant are on record in your correspondent's own state; and to these, and to some others, as extraordinary, it may be useful and gratifying to refer. I ask leave, therefore, to mention a few, which have been submitted to the most careful examination, and the results established by the fullest proof.

John Stevens, of Hoboken, N. J. produced, on one acre, 118 bushels, 2 quarts. "Mr. S. was confident that he would have had considerably more corn, had not his crop suffered very greatly by a thunder storm, which laid the greater part of it down at the time the ears were setting." On this crop a bet of fifty guineas was pending. The motives to enact measurement were such, therefore, as to secure accuracy. This was some years since; the particular date I am not able to ascertain.

Dr. Steele, of Saratoga, in giving an attested account of the crops of Earl Stimpson, in 1821, says that he had eight acres of Indian corn, which yielded 112 bushels to the acre, 896 bushels; 10 do. do. 90 bushels to the acre, 900 bushels. (Memoirs of New-York Agricultural Society, vol. 2, page 73.)

The following individuals applied to the Agricultural Society in Washington county, Penn. in October, 1823, for premiums, with authenticated evidence of the quantity raised per acre, on not less than five acres: Joseph Evans, 136 bushels per acre—John Wolf, 127½ do. do.—Samuel Anderson, 123 bshls. 12 quarts do.—Isaac Vanvookens, 120 do. do.—Isaac Buckingham, 118 bshls. 1 quart, do. do.—James Clakey, 113 do. do.—Jesse Cooper, 108 do. do.—De Gross Jennings, 120 do. do.

In the same year the following individuals applied to the Alleghany County Agricultural Society, for premiums on their crops: James Anderson, of Ross township, 103 bushels, 17 quarts, on one acre—John Snyder, of do. 103 per acre, on five acres—John Irwin, of do. 105 bshls. 20 quarts, per acre, on 4¾ acres—Wm. M'Clure, 129 bushels per acre, on five acres. (Memoirs of Pennsylvania Agricultural Society, vol. 6, page 228.)

In 1822, J. & M. Pratt, of Easton, Madison co. N. Y. obtained from one acre, 172½ bushels—do. do. 161 do.—do. do. 161 do.

In 1824, the same gentlemen obtained from four acres 680 bushels, or 170 to the acre.

From public and private testimony I know that the respectability of these gentlemen is such as to justify entire confidence in their statements; and their crops were subjected to the particular examination of committees for a premium. The Messrs. Pratt say they have no doubt of being able to obtain 200 bushels to an acre.

In 1823, Benj. Bartlett, of Easton, Madison co. N. Y. obtained from one acre 174 bushels. The veracity of this gentleman is equally unquestioned; and his, too, was a premium crop.

In 1831, Benjamin Butler, of Oxford, Chenango co. N. Y. states that he raised on one acre, 130 bushels, at 60 lbs. per bushel, or 140 bushels at 56 lbs. per bushel. (New-England Farmer, for Nov. 1831.)

We will come now to some crops which have been produced in Massachusetts, on our cold, and rocky, and despised soil. The evidence of these crops is ample and of undoubted character.

In 1820, J. Hunnewell, of Newton, produced 111½ bushels to an acre.

In 1822, J. Valentine, of Hopkinton, produced 116 bushels, 28 quarts, to an acre—D. Burnham, of Newbury, 117 bshls. 8 quarts, do.—T. & H. Little, of do. 116 do.—P. Williams, of Fitchburg, 116 bshls. 12 quarts, do.—W. Hull, of Newton, at the rate of 118 bushels, on seven-eighths of an acre.

In 1823, Fitch Winchester, of Southboro', 103 bushels per acre—John Lees, of Newbury, 113 bshls. 16 quarts, do.—T. &. H. Little, of do. 115 bushels do.—Thaddeus Howard, of West Bridgwater, 122 bshls. 23 qts. do.

In 1824, — Wilmarth, of Taunton, 142 bushels per acre.

1825, S. Longley, of Shirly, 112 bshls. 21 quarts per acre.

1827, John Andrew, of Danvers, 110 bushels per acre.

1831, Charles Bugbee, of Palmer, in Hampshire county, states that he has produced, on five acres, 540 bushels, or 108 bushels to the acre. (New-England Farmer, for Nov. 1831.)

I might produce many other examples of crops approximating a hundred bushels, and some as large as those which are above referred to. The above are fully attested by the examination of committees; and are, in most cases, certified under oath, with the exception of the last, which rests upon the personal declaration of the gentleman named, whose integrity I have no reason to distrust, though I have not the pleasure of knowing him, excepting through the communication above referred to.

Another gentleman, whose name has escaped me, residing in Windsor, Berkshire co. Mass. on the very ridge of the Green Mountain range, in a spot whose aspect was particularly propitious, produced, a few years since, 240 bushels of corn on two acres, lying in one piece, for which he received the premium of the Berkshire Agricultural Society. This, however, I state from recollection only, and not from any documents in my possession. I have, likewise, the assurance of his neighbors, who profess to know the facts.

In the communication to which your correspondent refers, I there stated, that Jesse Buel, Esq. President of the N. Y. Agricultural Society, rated his corn crop, from the measurement of a part of it, at 103 bushels to the acre; and deemed it practicable to obtain

154 bushels to the acre. The above measurements are all understood to be of ripe and shelled corn.

I am perfectly aware that these are extraordinary statements; but I have not a doubt of their correctness. I have not, myself, been able, with the best cultivation that I could apply, though I have never had a very favorable opportunity, to obtain nearly one hundred bushels; though, in one case, I gathered eighty-six from an acre; but I do not, on that account, the less doubt that it has been done. I know, likewise, very well, the utter incredulity of many persons on this subject, who say, "they never can, and never will, believe it possible to obtain one hundred bushels of Indian corn from an acre of ground." In such cases, I ask them if they would make such statements under oath, if they were not true; and if they did make them, whether they would not expect to be believed, or feel that they ought to be believed; and then, if they are not willing to render equal justice to others, or if they regard themselves as the only honest people in the world?

I consider the crop of Indian corn as of the highest importance to the country. There is, I believe, no farm, in which an acre of ground can be made to yield so much of food for animal life, as by the produce of Indian corn; and no crop by which, where the offal is well managed, so much is returned to the ground to repair the exhaustion, to which the crop has subjected it. Rye and oats are very inferior crops, compared with it. Wheat is much more precarious; and with good cultivation we may reasonably calculate upon two bushels of corn to one of wheat. The superior value of the corn fodder, where it is well saved, is, in many cases, a full equivalent for the extra expense of cultivation.

The average amount of this crop, even on the rich alluvions of the Connecticut, is, I apprehend, not more than forty bushels to the acre; and throughout the state of Massachusetts, it does not exceed thirty. It is my opinion, that not one fifth of the extent of land is devoted to this cultivation, which might be advantageously applied. Many a farm of one and two hundred acres has, perhaps, a patch of Indian corn of from four to six acres. This is nothing, and scarcely deserves the name of farming.

The culture of this crop admits, certainly, of very important improvements. The great things which have been done, show us what may be done; and present the most emphatical encouragement to experiment and enterprise. I have seen fine crops of this vegetable growing in those parts of New-Jersey through which I have passed, and the soil seemed to me particularly favorable to its culture. Indian corn will bear to be cultivated longer in succession, on the same land, than almost any other crop; but its productiveness would be greatly favored by a judicious rotation. It is almost the only crop which cannot be too highly manured; and lands of a warm aspect, and which have a large proportion of siliceous sand, intermixed with loam, are peculiarly favorable to its growth. The durability of the grain is greatly in its favor; as, if well saved and housed, it may be kept in our climate for an indefinite period, without injury or deterioration; and the farmer may always regard it as having a cash value. When pork is worth six cents per pound, corn may fairly be considered as worth from seventy to seventy-five cents per bushel, provided the animals to be fatted are of a healthy and thrifty kind, and the corn is applied in the best form, and with proper economy. Its various important uses are too familiar to require remark. It is, in truth, to be considered as the gold dust of a country, where it is capable of being abundantly produced. Yours, respectfully,

HENRY COLMAN.

Indian Corn per Acre—in answer to E. By INDIAN. [For the New-York Farmer and American Gardener's Magazine.]

MR. EDITOR,—In your last number, page 267, your correspondent calls (as I think with less ceremony than he ought) on Mr. Colman, for the name of the farmer that has raised on an average, one hundred bushels of corn per acre, and writes to know if they are bushels of *ears* or *shelled* corn. As the call may escape Mr. C.'s notice, or his distant residence prevent an answer for the next number, you may, perhaps, benefit your Elizabethtown friend, by publishing the following, hoping as good success may attend him. I had the pleasure of seeing Messrs. Little's crop of 1822, and must say it was a beautiful sight: and as to the Messrs. Little themselves, they deserve a high rank among the agricultural men of this country. They have taken more premiums, and, probably, labored more hours in the cause, than any men of their age in this country; that is, as to labor, they have attended to that during the usual hours, and a well-stored agricultural library has occupied evenings and rainy days, which, I am sorry to say, are spent by some farmers without the least benefit to themselves, at stores in their neighborhoods, or what is nearly as bad, smoking tobacco, *by the hour*, at home. They can safely be copied after, as they always either *hold the plough* or *drive*, either of which, we all know, is essential to him that would wish to raise large crops, and make farming profitable. But for Messrs. Little's statement, whose farm is situated in Newbury, near Newburyport, county of Essex, and state of Massachusetts.

NEWBURY, Nov. 5th, 1822.

To the Committee on Green Crops:

GENTLEMEN,—The following is a statement of the cultivation and production of one acre of Indian corn, raised by us:

The soil is a dark clay loam, and in 1821 was planted with beets and carrots, and manured with six cords of manure, made by a brewer in Newburyport, and produced about 400 bushels to the acre. In May, 1822, the land was twice ploughed, and planted in hills, 3½ feet apart, with five cords of compost manure put in the holes; 4 grains of corn were put in each hill, and covered with a hoe. The corn is the 8 row kind, and weighed, when harvested, 58 lbs. to the bushel. The green or unripe corn was not measured. It was hoed three times, and late in the season; the few weeds that came up were destroyed. The stalks were topped the middle of September; it was harvested in October, and drawn to the granary and measured; and there were two hundred thirty-two and a half bushels of ears, and a fraction over. By shelling four bushels of ears, the estimate was, that there were one hundred and sixteen bushels, and nine quarts, of *shelled sound corn*.

The expense of cultivating the above acre of corn, calculating the labor at 4 shillings (66⅔ cents) per day:

Rent of land	$9 00
Manure	15 00
May 3, Ploughing	1 50
" 9, Cross Ploughing	1 50
" 10, Planting, and putting manure in the holes,	2 75
June 7, Hoeing	1 00
" 12, Transplanting, or filling up the vacancies	0 67
" 14, Hoeing the second time	1 00
" 25, Do. third time	0 67
July 15, Destroying weeds	0 33
Oct. 7 & 8, Harvesting and measuring	5 33
	$38 75

N. B. The time of topping the stalks, and housing the butt or bottom stalks, not taken in the estimate, the value of which we think equal to 1½ ton of hay.

Here follow accounts of other crops; for particulars of planting, &c. reference can be had to the different authorities quoted:

1822. Col. Joseph Valentine, of Hopkinton—produce of one acre, 119 bushels, 26 quarts. (See New-England Farmer, vol. 1, page 178.)

1822. John Lees, of Newbury—produce of one acre, 108 bushels and 20 quarts. (See New-England Farmer, vol. 1, page 332.)

The town of Eaton against the world for corn and potatoes. 1823. Benjamin Bartlett produced satisfactory proof (says the "Madison County Observer," N. Y.) that he raised 174 bushels of corn, upon one acre of land—305½ bushels of potatoes, on a half acre of land,—for which he received the two first premiums.

1823. John Lees, Newbury, Mass.—produce of one acre, 113¼ bushels shelled corn. (See New-England Farmer, vol. 2, page 276.)

1823. Tristram & Henry Little, Newbury, Mass.—produce of one acre, 115 bushels and 1 quart. (See New-England Farmer, vol. 2, page 277.)

1825. Mr. Wilmarth, of Taunton, Mass.—produce of one acre of corn, 142 bushels. (See New-England Farmer, vol. 4, page 125.)

1824. Stephen Langley, Esq. of Shirley, Mass.—produce of one acre of corn, 112 bushels, and 21 quarts. (See New-England Farmer, vol. 3, page 213.)

1827. John Andrew, Esq. of Salem, Mass.—produce of one acre of corn, 110 bushels. (See New-England Farmer, vol. 6, page 153.)

1831. Benjamin Butler, of Oxford, Chenango county, N. Y.—produce of one acre of corn, 130 bushels, at 60 lbs. to the bushel, or 140 bushels at 56 lbs. to the bushel. (See New-England Farmer, vol. 10, page 153.)

1831. Charles Buglow, Esq. of Palmer, near Springfield, Mass.—produce of five acres, 540 bushels shelled corn. (See New-England Farmer, vol. 10, p. 188.)

Respectfully, yours, &c. INDIAN.

FERMENTATION IN THE AIR.—When the effluvia which arises from acid and alkaline bodies meet each other in the air, there will be a strong conflict or fermentation between them, which will sometimes be so great as to produce fire; then if the effluvia be combustible, the fire will run from one part to another, just as the inflammable matter happens to lie.—[Jemison.]

MR. FLEET,—I copy the above from Jemison's School of Arts. The idea of a fermentation in the air is erroneous, although Mr. Jemison is, generally, very correct, yet, in

this instance, his idea of the cause of thunder and lightning, I apprehend, is rather fanciful than correct. Acids and alkalies never, I believe, ascend into the air.

Yours, &c. R. M. W.

Potter, Aug. 27, 1833.

Rural Cemetery in the Vicinity of New-York. By Agricola. To the Editor of the New-York Farmer.

I was much pleased with your plan and description of a rural cemetery. If the grounds have the fascinating attraction your picture would convey, surely the people of Boston may be envied; yet the reality must exceed what fancy can delineate, for we cannot, in a mere plan, see the trees, the undulating surface, the bold eminences, the steep acclivities, the deep shadowy vallies, you so well describe. We may imperfectly conceive, but, without the labor of a long journey, the citizen of New-York cannot properly enjoy the prospect, the city, the village, the cultivated fields, the blue hills of Milton, &c. &c., embraced in your description of Mount Auburn. On your plan we may discover the fantastically meandering avenues, the whimsically interlocking paths, leading we know not where,—doubtless to some beautifully secluded dell, to some romantic eminence, to the Arcadian grove, to the pond, to the bridge, to the plain,—to where we know not: we cannot know unless by undertaking a long journey. Your picture is fascinating; it is, however, the bunch of "sour grapes," and must, to the majority of your city readers, ever continue a tantalizing vision, unless, indeed, some society should build an Auburn near home. And why should it not be so? Is the New-York Horticultural Society less enterprising, less scientific, than that of Boston? "What is every man's business is no man's business." So was it at Boston, and so would it there continue, had not an individual stepped forward to dissolve the spell—to do what? not himself to purchase ground, not himself to plan or to execute, but simply to propose the subject to the consideration of the Boston Horticultural Society. "I came, I saw, and I conquered," said the Roman general. "I proposed and I accomplished," might as well be said by the person who first suggested the subject of the rural cemetery at Mount Auburn.

In the vicinity of New-York are many sites of surpassing fitness for a rural cemetery, many in the neighborhood of the place whence I write, (8 miles from New-York,) and many still nearer to the city. Let but one voice proposing the measure be heard in the New-York Horticultural Society, and it will be found that to propose is to accomplish.

The people of New-York want something of the kind. The Corporation of that city, in its unsparing inroads on every kind of property, will not leave a spot for the repose of the dead. Commerce in its vast strides claims every inch of Manhattan Island for streets, dwellings, and warehouses; burying-ground after burying-ground has been uprooted; the omnibus rattles over places once the graves of our fathers; but where stood the grave-stone, or where now rest the earthy remains of the tomb's silent tenant, no man can tell. Where will this end? Not in the city of New-York: the dead must there give place to the living. Sentence of expulsion has been passed on the mouldering occupants of Trinity churchyard; what ground can then hope for exemption?

Respect for the dead may by some be called superstitious, but surely it is an innocent propensity, and deserves some consideration in regard of its antiquity. In all countries, in all ages, by all people, civilized and savage, veneration for the dead has been a prevailing sentiment, a controlling passion; let us, then, for there can be no harm in the act, continue to scatter flowers over the place of the dead; let not the practice of violating the sanctuary of the dead prevail, lest some rude hand should, in imitation of us, disturb the ashes of the inventor of printing in the old world, or violate the tomb of Liberty's best son in the new.

The rural cemetery near Boston is not confined to the single object of honoring the dead: it tends also, as can be collected from your description, to the promotion of science, and the cultivation of the arts, blending pleasure with improvement, health of body with health of mind. Let us then have a Mount Auburn, or by whatever name you may please to call it: a rural cemetery near the flourishing city of New-York.

Agricola.

Fort Hamilton, L. I., Aug. 31, 1833.

P. S.—Since writing the above, I read in the July number of your valuable work, a letter on the above subject, signed "Alexander Walsh." It is full, decided, and warm. Such zeal does honor to the writer, and cannot fail to make a deep impression on every reader of it.

Ingenuity of the Spider. [Communicated for the New-York Farmer, and American Gardener's Magazine.]

Mr. Editor,—I have thought it might be interesting to your readers, and consequently to yourself, to read the following statement of a fact which came within my observation recently in Brooklyn.

On passing along one of my garden walks the other day, I discovered a spider's web constructed rather singularly. It was suspened from a cherry-tree, being attached to the trunk, and running out with numerous fastenings, at different distances, on a large limb, which rose at an angle of perhaps 30 degrees from the earth. This you may suppose would make the web of rather a narrow triangle, and one not likely to bring the proprietor much custom. To enlarge its sweep, however, the spider had, by some means or other, formed a corner downward, and suspended from it a little stone, say half an inch in length, three-eighths in width, and one-eighth in thickness, well secured in parachute style, and hanging some eight or ten inches below. This weight kept the web taut, and swung slightly as the wind affected it; and there it remained for several days. I had some curiosity to know more of the projector of this contrivance, and on casting my eye near the tree, where the thickening fabric indicated that he kept his counting-room, I discovered a spider with a body nearly spherical, and of the size of a small cherry, about half an inch through, with crab-legs, and in all respects appearing ready for business. I touched him slightly with a little stick, upon which he made a motion toward it so sudden and so impassioned as well nigh made me jump, at the same time striking the stick in such a manner that inclines me to think, had it been animated, it would have felt his venom.

I am ignorant of the branch of natural history, as well as of some others, and know not the class to which this spider may belong; nor whether this mode of securing a web may not have been frequently observed by others. But the case to me being new, I submit it to you, with the hope that it may elicit remarks from those who are better informed than myself on the subject.

Botanical Ramble. By Lansingburgh. [For the New-York Farmer.]

In a single ramble on the hills east of Lansingburgh, within half a mile of the village, at a fine botanical spot, formed by a glen, wood, slope and meadow, as many as twenty fine plants were found in blossom, in the beginning of August: among which were,

1. The beautiful *Fragrant Purple Orchis*; this is the finest of this genus here, being both sweet-scented and showy. One was seen three feet high, with a dense spike, over six inches long. Some roots were transplanted into a garden, which they will, hereafter, adorn.
2. *Orchis Psychodes*, now Habenaria Psychodes.
3. *Rudbeckia Laciniata.*
4. *Lysimachia Ciliata.*

Besides many *Asters*, *Solidagus*, or golden rods, *Helianthus*, or sunflower, and three *Lobelias*, *L. Cardinalis*, *L. Syphilitica*, and *L. Pallida.*

So many pretty things being thus found so near our dwellings, is it not worth while for every man who owns a garden to seek for these beauties of nature, in his daily or casual walks, and improve his garden by transplanting some thereto?

Some of our garden plants are bought at high prices, while we can have as handsome ones for a trifle or nothing, around us; which are worth as much for whoever has a taste for floriculture.

Many of these floral neighbors have, besides, many medical or economical properties, rendering them available for various useful purposes.

Sometimes they are even sent for from England and Europe, as highly valued in their gardens. For instance, our *Cypripedium Spectabile*, a kind of *Lady-slipper*, is sent for every year, as a rare and beautiful vernal plant.

Lansingburgh.

Wooden Tracks for Roads. By R. M. W. [For the New-York Farmer.]

Mr. Fleet,—Mr. Williams' ideas about wooden tracks on roads are worthy of much consideration. They are much cheaper and more conveniently had than any other material in our *wooden country*, and timber laid lengthwise in the manner he directs, is I believe less liable to wear than stone itself. If the travel was across the grain, it would be otherwise, but, if lengthwise, I am convinced the wear will be less than is generally appre-

hended. By this plan we may have good roads throughout our country at small expense. Yours, &c. R. M. W.

Potter, July 4, 1833.

Quantity and Fertilizing Effects of New-Jersey Marl. By C. BRUEN, Esq. [For the New-York Farmer.]

FREEHOLD, Monmouth co. N. J. Sept. 10, 1833.

MR. FLEET,—Dear sir: Yours of the 6th instant I received on the 8th. I have taken some pains to ascertain of my neighbors their experience in the use of marl as manure. I speak now of that kind sent by Mr. Ellis and myself to Mr. Fisher. We call it *Squancum Marl*, owing to the circumstance of its being found near that place. It is the best kind yet discovered in our county. I will now attempt to answer your inquiries respecting it.

1. "To what extent, and in what probable quantities?" &c. It is found on the right and left banks of Manasquan river; to what extent I am not able to say; the quantity appears to be inexhaustible. The depth, I believe, has not been ascertained, owing to the water which fills the pits, and which proceeds from springs or the river. I believe pits have been opened to the depth of twelve feet or more, and the quality better than at the surface.

2. "What quantities applied to the acre, and to what crops?" Five to eight loads of about twenty bushels or a ton each load. Five loads for the poorest land is sufficient; good land will bear eight loads. When I speak of poor land, you will understand it is that kind which will produce nothing, perhaps not worth five dollars per acre, before the discovery of this marl. One dressing of five loads per acre will produce from thirty to fifty bushels of buckwheat per acre, and a good crop of rye and clover, and will last from four to eight years, and perhaps longer. It has only been in use ten or twelve years, I think. It answers for corn; but, I believe, not quite as well for wheat at first, but after a crop or two of clover, if the soil in other respects is suitable, it will produce good wheat. It is usual to make a compost of barn yard and horse stable manure, with a quantity of marl, for wheat and corn, but for buckwheat and rye, it is taken immediately from the pit, and spread, or rather sprinkled on the ground, before sowing.

3. "How will it compare in cheapness and permanency of effect with other manures?" Some of our farmers consider it the cheapest manure they can get, and better than ashes of any kind. Lime cannot be had with us at the same price, and if it could, I am doubtful if it would answer so good a purpose. I do not think our soil is adapted to lime as a manure, at any rate not in the same way that we apply marl. As to permanency of effect, I can only say that I have understood, as I have before stated, that one dressing has produced good crops for several years, and the land appears in good condition still. Large quantities, applied at one time, appear to be rather prejudicial to the land, and more particularly so in a dry season.

4. "Can it be had in any considerable quantity, and what price per bushel, delivered in New-York?" It can be had at the pit at 37½ cts. per load of twenty bushels, not quite 2 cents per bushel, thrown out of the pit. The cost of transportation to sloop navigation, at Square Inlet, has been estimated at 10 to 12½ cents per bushel; from thence to New-York about 6 cts.: making 20 cts. per bushel, delivered there. Perhaps this estimate is too high. It is eight miles to Square Bridge from the pit. This distance the transportation would be by land. From the Bridge to sloop navigation at the Inlet, about eight miles further. That distance it would be taken in batteaux; and the frequency of loading and unloading would add to the cost, but how much I cannot say; therefore, I have put down the cost as above, 20 cents delivered at New-York.

It sells readily at this place, which is about eight miles from the pit, for $1,25 per load, or 6¼ cents per bushel; and, I think, in a year or less, it will command $1,37½ to $1,50 per load of 20 bushels.

Marl, similar, and, perhaps, as good as that at Squancum, may be had at, or near, Shark river, and, I believe, in large quantities, and, as I am told, can be delivered on board of batteaux at about 10 cents per bushel, but what the cost from thence to New-York would be, I cannot say; neither do I know that it is as good as that at Squancum. About two miles from this place, marl has been discovered during this summer, which resembles that at Squancum; but what its qualities are has not yet been ascertained. In Middletown, Shrewsbury, and other places, it is found of various kinds and qualities, but none so good as the kind sent you by Mr. Ellis. In some places it is found near the surface, and on high ground, and in other places, in the banks of rivers and small streams; in fact this county appears to be full of some kind or other, and owing to this circumstance land has consequently increased in value near those places where it is known to exist, from 25, 50, and in some instances to 100 per cent.

I believe I have now answered your inquiries, to the best of my knowledge and belief; and if you think my remarks worth any thing, you are at liberty to make such use of them as you may think proper. I am sensible that a person more acquainted with the subject could give you more information. If Mr. Fisher would take the trouble to make a visit here, and see the effects produced by our marl, and hear the remarks of our practical farmers, he could give a much better account, and one that would be more satisfactory to yourself and the public. I am, &c. respectfully,

C. BRUEN.

[Specimens of the Marl may be seen at 87 Washington street, New-York.]

Birmingham, Coventry, and Kenilworth Castle. By B. P. [For the New-York Farmer.]

(Continued from page 263.)

I fear, if I attempt to give you a description of Birmingham, I shall not interest you. It is well known in every part of our country, even the far West, to be the greatest manufacturing town in the world, of iron, steel, and everything of which metals bear a conspicuous part. The dense smoke, by which we were surrounded while there, will prevent describing, or even recollecting, any of the situations that were particularly beautiful. Some in the environs, as we approached the town, were very pretty. The show-rooms of Thomaston, where samples of the articles he manufactures are exhibited, are very splendid; he also has, probably, the greatest number of coins and medals in any one collection. We were, also, much interested in the manufacture of fowling pieces, and fire-arms generally. The most celebrated gun-manufacturers in London procure many of the parts in a rough, or partly-finished state, and then finish and put their stamp on, by which the price is, perhaps, double one of equal value made in Birmingham. The population is between one and two hundred thousand, and is, apparently, better fed and clad than the population of Manchester.

On leaving Birmingham we proceeded to Coventry, the country in the vicinity of which is well cultivated, and, with the exception of wheel-ploughs, differ but little in their manner of cultivation, from other districts we had passed through. As we approached Coventry, the gardens attached to the cottages were very neat, and the cottages in good taste.

There are many beautiful views in this county, (Warwickshire.) This famous old city of Coventry once possessed a beautiful cathedral, which shared the fate of monasteries, &c. in the reign of Henry VIII. The streets of Coventry are quite narrow and dirty, and the houses quite antique in appearance. The inhabitants are mostly engaged in the manufacture of watches, laces, ribbons, &c. The wonder, in Coventry, of all children, (of whatever age,) is a statue placed in the corner of a building, called Peeping Tom. You will pardon the space occupied in his history, as there seems nothing here, except him, worth describing. It is said that during the eleventh century, Leofric became Lord of Coventry, and imposed the most exorbitant taxes on the inhabitants for the slightest offence. In one instance they petitioned the tyrant, in which his wife Godiva joined them. He consented to relieve them on condition (which he did not suppose would be accepted), viz. that Godiva should ride through the town naked. Her regard for the suffering of the people induced her to perform the brutal requisition, after first prohibiting any person, under penalty of death, from looking out of the windows. All complied excepting a poor tailor, whose curiosity prompted him to take one peep at the naked beauty, as she passed, when he was instantly struck blind. Having complied with the requisition, she claimed the reward, which he immediately complied with, by granting the city a charter, toll free. The ceremony was celebrated annually, by procuring some female, destitute of modesty, to array herself in a flesh-colored dress, and ride through the city; but recently it is only once in seven years, on which occasion the statue has a new suit of clothes and cocked hat. In one of the churches a painting of Leofric and Godiva existed some years since, with the following incription:

"I, Leofric, for love of thee,
Do make Coventry toll free."

Pursuing the way from Coventry to Kenilworth, we were soon in sight of that venerable ruin, immortalized by the pen of Sir Walter Scott. If its station in history was not conspicuous before, the lofty walls, in many places clothed to the very summit with ivy, have a most noble effect as you approach it. We had, all along, intended visiting this ruin, which, as a whole, has no equal in England, if we may believe what they say who have seen all; but as we approached it, a feeling of awe seemed to come over us, and reflection, for a moment, would cause us to thank our destiny that we did not live in an age when the wretched state of society made castles of that description necessary. No traveller should

pass these remains of ancient magnificence and power, without stopping to view them. The ruins cover several acres: it is said to have been built in the reign of Henry II, by Geoffrey de Clinton, Chamberlain and Treasurer to Henry I, but was demolished, and the moat drained during the civil wars, in Cromwell's time. Kenilworth Castle was afterwards granted, by Henry III, to the Earl of Leicester, who, as also his son, were engaged among the leading rebels to his benefactor. Henry, at length, laid siege to the castle, which held out for months, and then surrendered Dec. 21, 1216: it, afterwards, was held by different people until the reign of Elizabeth, when she, by letters patent, in the fifth year of her reign, granted it to Robert Dudley, and, in the following year, created him Earl of Leicester. This potent Baron added to the already magnificent structure of Kenilworth Castle the noble gate-house, and that part called Leicester buildings, besides the flood-gate, and the gallery tower, in which was a spacious apartment for ladies to witness the exercises of tilting and barriers. He is said to have expended sixty thousand pounds, which, when the value of money at that period is considered, is enormous. It was here, in July, 1575, that, in the 17th year of her reign, Elizabeth and her court were entertained for seventeen days, by the Earl of Leicester, during which time thirty-one barons, and all the ladies of the queen's household, attended by two hundred servants in new liveries, were all lodged in the castle. The servants that waited on table were clothed in velvet. The consumption daily, as per the records, were sixteen hogsheads of wine, forty hogsheads of beer, and ten oxen, slaughtered every morning. It is really delightful to wander through its mouldering arches, and to gaze, with admiration and regret, on the ruinous state of this seat, once enlivened by the presence of those who have long since mouldered to dust. An aged matron occupied a part for the purpose of a dairy-house; and the old stables are still occupied for agricultural purposes. How different indeed is the appearance! the plough-horses quietly taking their stalls, compared with the snorting steeds, clad in armor, that formerly occupied them, after a brilliant tournament!

The old lady in charge pointed out some of the most remarkable objects, particularly Queen Elizabeth's chamber, her seat in the great hall, &c. She also had a descriptive poem for sale, which, if the poetry is not the best, has a good moral; and I will add a part of it:

"But though this lordly mansion fades away,
Beneath the fretting dampness of decay;
What though there once the Royal Favorite shone,
Beneath her virgin smiles, who graced the throne,
While, for her pastime, chivalry display'd
Romantic shows, and pageantry's parade;
What, though the great Leicester and his gallant train
No more these mirth resounding walls retain;
Yet here thou may'st not idly wile away
The golden steep of summer's waning day;
For yon vast fragments, moss-grown as they lie,
Present a map of man's mortality;
And thus all casualties and splendors past,
Are calmly mouldering—dust to dust, at last;
Dread were those times, when not her foreign foes,
Against the uplifted arm of England rose;
But hostile brothers, friends, and households were,
The frown of strife, and threatening banners bare;
When Stafford, loyal Stafford, nobly bled,
And Charles, a fated exile, fought and fled;
When daring Cromwell seiz'd the bickering land,
And midst wild storms his future kingdom plann'd;
Then were his arms against thy towers employed,
Then were thy palaces, fair scene, destroyed;
The battering cannon and the ponderous stroke,
Thy roofs, thy walls, thy massive cement broke,
And loud and oft-repeated was the blow
That laid thy pomp, thou princely mansion, low.
Grand, though in ruins still, dost thou appear,
Wip'd by the pearly drop of morning's tear,
And sprinkled with the holy dews of night,
What time she folds the sighing from our sight.
The woods, that near thee rise, of sombrous hue,
Enshroud and dignify thine exit too,
And as the storm-cloud reckless o'er thee low'rs,
Shake their broad arms, and raise responsive powers:
Old Time on yonder turret sits alone,
And hourly drops an ivy mantled stone;
Thus warning all, the works of human art,—
From your foundations too, you soon must part;
And as the hovel, in the alder shade,
Heaps upon heaps, a crumbling mass, be laid;
Just such our lives, though pulses high and strong,
Now their divine economy prolong—
Though nerves of steel their curious frame embrace,
And young-ey'd health sits, smiling, on thy face,
With tarriance unconstrained; yet soon, stern time,
(Whatever thy boasted strength, wherever the clime,)
With his broad scythe thy dwelling shall invade—
Cut down life's stem, and bear thee to that shade,
Where never more shall glide one gilding ray,
Till the last trumpet hails eternal day!
Till the last fall of human works is o'er,
And time and desolation are no more.
Thus, meditate, till thou that hope receive,
Which cannot, e'er, the pious heart deceive:
What faith sublime in Him who wrought our peace,
That shall not with life's final conflict cease;
O! for an heirship to immortal bliss,
How poor the pageants of a world like this!"

There are always poetical descriptions of all the show places, some of them not remarkable for their claim to what may be called tolerable, still their descriptive claim is good. I annex a few lines by way of filling this sheet, and taking leave of Kenilworth, wishing you to again read Sir Walter Scott's Kenilworth Castle.

"Illustrious ruin, hoary Kenilworth!
Thou hast outliv'd the customs of thy day;
And, in the imbecility of age,
Art now the spectacle of modern times;
Yet, though thy halls are silent, though thy bowers
Re-echo back the traveller's lonely tread,
Again imagination bids thee rise
In all thy dread magnificence and strength;
Thy draw-bridge, foss, and frowning battlements,
Portcullis, barbican, and dungeon-tower;
O what a goodly throng of barons bold,
Clad in their rude habiliments of steel,
Of valorous knights, and squires, and dainty dames,
Came, trooping, through thy portals; what a din
Of voices, rattling hoofs, and neighing steeds!
Yon herald's clangor brays the near approach
Of courtly feet and chivalrous emprise.
Time has flown back a few short centuries
In sportive mood; again these walls are hung
Confusedly with arms and armor bright;
Harbergeon hard, and ponderous battle-axe,
Hawberk, and helm, and cuirass, lance and sword.
In days of yore the gladsome day was spent
In joust, and tournament, and courtly glee;
Then Castle roofs re-echoed with the peal
Of midnight revelry and festive mirth.
O! what a glorious time was that to live in!
When knights were faithful, ladies true and fair;
When pageantry and pleasure, hand in hand,
With innocence danced through the circling hours:
When grief, and pain, and guilt, were never known,
And all was loyalty, and life, and love!
But was it so? Too closely question not;
The fairy dreams of gay romantic youth!
He that, from records past, would draw
A portrait fair of frail humanity,
Must be content with hurried glance, to pass
O'er blotted pages of distress and grief,
And many a painful paragraph of crime.
Men were of olden time as they are now,
The slaves of passion, pride, and follies vain;
Where are the gaudy pageants of renown,
Triumphal arch, and decorated bowers,
That favored Leicester summoned to his aid
To pamper pride and flatter royalty?
Where is the prison-house, the murky den,
Where captive Edward flung his fettered limbs?
All lost in one wide scene of desolation;
Hark! 'twas a stone, that from yon turret top
Fell heavily upon the sod below.
These falling fragments of departed strength,
These mouldering masses make one feel ashamed
That earthly grandeur has so little power,
To hand her greatness down to future times.
Where are the wonted inmates of these halls?
The brawny arm of strength, the manly heart
That breasted danger, and the eye that flashed
Indignant fire—with all the fairy forms
That oft have flitted through the festive dance,
Long since have mouldered in the dust of *death*.
Illustrious ruin! hoary Kenilworth!
I gaze upon thy fading glories with a sigh.
Thy tenants have forsook thee—thou art left
A mouldering monument, whereon I read,
Not only *their mortality, but mine.*"

Yours, &c. B. P.

Cholera—Tropical Plants. By H. PERRINE, M. D. To the Editor of the New-York Farmer.

CAMPECHE, 1st Aug. 1833.

DEAR SIR,—Your letter from New-York, of February 15th, with Mr. Dichehu's of Baltimore, February 11th, did not reach this city until the 7th ult. when the epidemic cholera was raging with extraordinary fury. During four weeks day and night, my professional services were gratuitously extended to these unhappy people, and I am now gradually recovering from the overwhelming effects of so much labor of body and mind. About 4000 inhabitants, or 20 per cent. of the population, have been destroyed. In the villages and plantations the mortality has been so much greater, that we may reasonably fear the extinction of one half of the natives of this peninsula! The cholera of Havana, of New-Orleans, and of Campeche, have all combined against the progress of my favorite enterprize; but my ambition to complete it has hitherto sustained my existence, and while I exist my labors in its behalf shall be unceasing.

Every person practically acquainted with tropical climates is disposed to exclaim with Le Brun: "What a paradise, if we could only transport thither civilization and morality!" I have demonstrated that such a climate exists within our free and happy border. The Banana and the Cocoa are already flourishing at Cape Florida. Let us transport thither the other plants of the tropics, and we shall have a terrestrial paradise indeed! The Inspector of the Customs, and Keeper of the Light-house, J. Dubose, who has resided twelve years in the territory, says that in his family of 11 whites, besides his negroes, there has not been a case of sickness for seven years past—that annual or autumnal fevers are unknown—that, in short, there is not a more healthy spot in the world!

In the same week with yours, two letters reached me from Professor Ramon de la Sagra, (the author of the late History of Cuba,) one dated the 11th of March, (which was not sent then, on account of the death of our mutual friend, the respectable American Consul, Wm. Shaler,) and the other dated the 28th of April. I will send you copies by the first opportunity, when you will perceive that he willingly tenders his very important assistance to my enterprize of congregating tropical plants at Cape Florida. I feel so weak and faint that I cannot write you more by the present reported accidental opportunity of a small schooner for New-Orleans. The people of this city are apparently very grateful up to this date for my varied services in the epidemic. The Ayuntamiento has passed a resolution soliciting from the Legislature a letter of citizenship. The commanding general and inferior officers of the regular troops in this place are affixing their names to a very expressive memorial. The priests are also doing their part in these manifestations of gratitude. If it will only extend so long and so far as to aid my transportation of plants to Cape Florida, I desire no more.

Very respectfully, your obedient servant,
H. PERRINE.

P. S.—In the ensuing two months, God willing, I shall write to you more than I have done in eight months previously. I have abundant materials on hand.

Consulate U. S. A., CAMPECHE, 7th Aug. 1833.

DEAR SIR,—As I am slowly recovering

from the effects of the cholera of Campeche, and apprehend that the cholera of New-Orleans may have prevented the publication there of my last two letters, directed to the Collector of that port, I send you copies with the dates of 22d May and 15th June.

I also send you short extracts of letters from our late very respectable Consul at Havana, Wm. Shaler, whose testimony in favor of the Henequen Agave is of very great importance. The extracts from Professor Sagra's letter, and my reply, indirectly convey information of the state of my enterprize. The subject of *fibrous leaved plants* is, of all other classes under heaven, of the most vital interest to our country. Their cultivation will extract more wealth from the surface of the earth than can be obtained from its interior, through all the mines of gold and silver in the world. If our twenty-four existing states will not embrace every plant in the twenty-four classes of Linnæus, the remainder may be included in the two territories of Michigan and Florida. In our widely extended country, the New-Zealand flax must certainly somewhere find a congenial climate. The Yucca filamentosa, or silk grass of the south, you have witnessed carrying its fibrous leaves unharmed through the severest winter of the north, as far as New-York, a wonderful proof of the effects of *gradual acclimation*. At some one point the Formium tenax of New-Zealand will bear our winters, and may thence be extended north or south *as it pleases*. Political economists in Europe have speculated on the beneficial effects which its acclimation and cultivation there would have on the destinies of mankind. We can show them in practice how wonderfully it will add to the comforts of the poor and to the wealth of the nation. But why not begin at once with the equivalents to be found in our native yuccas? The nation requires the excitement of a thousand pens to realize the importance of the truths which I have been preaching in vain during the last six years.

I offer a greater world of prosperity to my country than Columbus ever offered to his own. Shall our destinies be similar? Shall a colony of the same nation, which profited by her services, be the first to profit by mine? I repeat again, among the fibrous leaved plants none offer as great claims to immediate introduction and extensive cultivation as the Agave Sisalana.

Very respectfully, your obedient servant,

HENRY PERRINE.

P. S.—If possible I will have copied my letter of the 4th of March to the Collector of New-Orleans, which was published there the 25th of the same month; if not, seek the paper.

Extracts of letters from Wm. Shaler, American Consul in Havana, to H. Perrine, A. C. at Campeche:

"HAVANA, 2d January, 1833.

"In reply to yours of the 6th ult., &c. . . . I have, many years since, been aware of the importance of the species of Aloes [the Sisal Agave], which you are seeking to introduce into Florida, as a material of manufacture, which I pointed out in a letter to Mr. Poinsett, before his departure for Mexico. I have found it growing abundantly on the arid lands of California, and, subsequently in Algiers; and it seems to me that it must flourish throughout Florida, and become a valuable item in its exports."

"HAVANA, 1st March, 1833.

"I sent the package of seeds to Mr. Browne, of Key West, by a safe hand. I gave the list of seeds and roots from your letter, to Don Ramon de la Sagra, who will put them up in a box, and I will send them to Mr. Browne, [for J. Dubose, Cape Florida.] M. de la Sagra will write you, and I have requested him to furnish me with the three volumes of his Annales, which may go by the next occasion."

Extracts of letters from Don Ramon de la Sagra, Director of the Botanical Garden, at Havana, Professor of Botanical Agriculture, &c. [in French] to Henry Perrine, M. D. American Consul at Campeche:

"Botanical Garden, HAVANA, 11th March, 1833.

"My respectable friend, Mr. Shaler, has communicated to me, with your letter, your desire to obtain some of the most useful seeds and plants of the species mentioned in the catalogue of my work on the Island of Cuba, and I am highly pleased with the position and power of gratifying a part of your wishes. I send you at present, through Mr. Shaler, the *roots* of Jatropha Manihot, of Arum Sagitifolium, of Marantha Indica, of Marantha ——! (Llerenes), and of Curcuma Americana; also the *seeds* of Bixa orellana, of Guilandina moringa, of Phaseolus tuberosus (Jicama), of Hibiscus tiliaceus, and of Corchorus siliquosus.

"By the next opportunity I will send you all other species that may be in my power. You shall also receive the three volumes of Annals, which I have published here, and the fourth volume as soon as it is completed.

"As I very willingly engage to forward all the seeds and plants you may require from this country, I hope for equal complaisance on your part; and hence you may send me two or three pounds of the seeds of that good species of cotton which you enclosed in your letter to Mr. Shaler; the same of the seeds of Campeche Logwood; some plants of Pita, especially of that variety or species called Pita de Guataca; some roots of Arracacha, in powdered charcoal; and a list of the common plants of the country you inhabit.

"I shall, also, be very grateful if you will send me the instruments which are used by the natives in making their bales, cordage, &c.

"Send me also good varieties of the maize and rice of southern countries.

"If your project is to introduce from tropical climates, into South Florida, economical objects of cultivation, I have a similar design, of uniting, in a Model Farm, all possible branches of agricultural industry; and, consequently, we shall be mutually useful to each other."

"Botanical Garden, HAVANA, 28th April, 1833.

"The cholera has passed away, but leaving very painful remembrances, one of the most afflicting of which is the death of our common friend, the respectable Mr. Shaler. To satisfy your wishes I had done what the preceding letter informs you, but the case has not been sent; the Vice-Consul not being acquainted with the directions; and you will, therefore, please to give me your orders. The funds which you sent to Mr. Shaler remain untouched."

Consulate U. S. A. CAMPECHE, 7th August, 1833.

Professor Don Ramon de la Sagra, Botanical Garden, Havana.

DEAR SIR,—The Cholera of Havana, of New-Orleans, and of Campeche, have, each, essentially interrupted my progress in domesticating tropical plants at Cape Florida; but your letter of the 11th March, and 28th April, received in this city during the fury of the epidemic (7th ult.) have consoled me for my repeated losses and delays in the transmission of materials *via* New-Orleans. You judge correctly that we may be very useful to each other in our respective enterprizes of the Experimental Nursery, in Florida, and the Model Farm, in Cuba, as I can add directly to your stock, all the productions peculiar to Yucatan, for intermediate acclimation in your Island, between the two Peninsulas. Although vessels rarely sail direct from Campeche to Havana, yet, as opportunities are, comparatively, frequent from Sisal, I trust that the additional influence which I have gained by my extraordinary gratuitous services during the Cholera, will enable me so far to overcome the obstacles which ignorant jealousy has, hitherto, thrown in my way, as to transmit you living plants through the latter port. The present note, I expect, will reach you *via* New-Orleans. By the first vessel direct for Havana, I will answer in detail the inquiries of your letter, and will forward the seeds, &c. you require. I presume you are aware that Logwood seeds, intended for your port, have had their vital properties destroyed by boiling! What a contrast is offered by the enlightened inhabitants of Cuba, who freely exchange their vegetable productions with the world! I repeat my directions for the plants you offer, "To F. A. Browne, Key-West, for J. Dubose, Cape Florida."

The funds which were in the hands of the lamented Mr. Shaler will be deposited in yours, for the purpose of my enterprize. Should there be no direct opportunity to forward me the Annales of Science, to Campeche or Sisal, please to transmit them to J. W. Zacharie & Co., New-Orleans.

I have the honor to be, very respectfully, your obedient servant, HENRY PERRINE.

Consulate U. S. A. CAMPECHE, 22d May, 1833.

Martin Gordon, Esq. Collector of the Port of New-Orleans:

SIR,—I send you a Maguey de pulque of Mexico, a native Maguey of Yucatan, and an Iatla, of Tobasco, to be placed near the Sacqui and Yashqui, of Sisal, for public inspection and comparison. The careful preservation of the whole at some Greenhouse in New-Orleans is demanded by motives of scientific and political importance. Perhaps this Pulque will be the only genuine drink producer in the United States; and as it has passed six years in this city, since its descent from its native mountains, it may thrive in the intermediate temperature of Louisiana. Its broad, thick, succulent leaves, which are almost entirely destitute of fibres, are asserted by Humboldt to furnish the fine, strong, and long fibres called Pita, which accompany the Iatla, from whose narrow, thin, and dry leaves they are really obtained, a plant which, you will observe, resembles the pine-apple, instead of the Agave.

A single glance at the Pita, the Henequen, and the Pulque plants, will show the essential errors, which have been propagated under the head of Agave Americana, by the pompously dogmatic Baron. Nevertheless, he has justly denominated the mature Maguey de Pulque a true vegetable spring, which yields, for two or three months, at least, a gallon daily of the favorite Mexican beverage. Immense plantations of these profitable substitutes for the vine and apple-tree are, yearly, extending, in the uplands of Mexico; and we may now infer, that they will gradually spread over the low plains of Yucatan. Cannot then our countrymen be roused to add this plant to the resources of wealth, which may be enjoyed by our poorest citizens on our most sterile soils.

I have the honor to be, sir, very respectfully, your obedient servant. H. PERRINE.

15th June, 1833.

SIR,—I send you, in the schooner Francisca, a bag, containing the fruits of three kinds of trees, which have here the names of Pich, Corozo, and Habi. The fruit of the Pich, so very singular in its shape, is obtained from a beautiful shade tree, whose branches extend from four to five hundred feet in circumference, which is larger than the Adansonia digitata, or great Boabab, hitherto asserted to be the "largest or broadest tree in the world." In the plantations of this peninsula, it is a natural shed for cattle, and in the villages it is a hospitable roof for travellers, to shelter great numbers from the blazing rays of a tropical sun.

The nuts called Corozo grow *in clusters as large as barrels*, on a stout but handsome palm tree, of Tobasco, which I believe to be the Alfonsia oleifera of Botanists, or the American Oil-bearing Palm.

The four-winged seeds called Habi, are taken from the leguminous trees of that name, (Piscidia Erythina,) whose timber is as highly prized in Yucatan, as the Live Oak in the United States, or the Teak in the East Indies, and is, therefore, equally entitled to the care of our government in its plantation at Pensacola.

All Campeche built vessels have their timbers of the Habi, and their planks and upper works of the Cedro of this district, and notwithstanding the enormous cost of ship-building here, they are preferred, on account of their extreme durability, to the best American merchant vessels, at half their price. Both are ornamental trees, which, if once planted at the southern extremity of East Florida, will gradually extend up that peninsula, and become very valuable additions to the resources of our navy.

I have the honor to be, sir, very respectfully, your obedient servant, H. PERRINE.

John Louis Gagneux and Augustin Laurent: a Story, translated from the French. By A. M. P. [For the New-York Farmer.]

At the entrance of the village of C. beyond the city of Melun, on the road to Lyons, may be seen two cottages nearly similar to each other. The same low room, the same shed, the same stable, the same extent of ground with its hawthorn hedge. But the thatch of one of these houses is moss-covered, and there are openings in the roof in several places; the shed only serves as a shelter to some brush-wood. The low room is damp, and far from being neatly arranged. It is occupied on one side by a bed; near this there is a sort of couch, at the head of which are suspended the Sunday garb of a girl ten years of age, and the apparel of a boy between six and seven years. A lame table, a cupboard wanting its lock, a wooden box, upon which is seen a heap of fruit gathered from the neighboring trees, two broken chairs, and a little arm-chair wanting an arm, present to the view the miserable furniture of this habitation. The appearance of the garden is far from being more agreeable; a few neglected cabbages are disputing a little ground with some currant bushes almost killed by nettles. A dirty and starved cow lows in the stable, fastened before an empty manger, and only having for its litter a handful of dried rushes. This is the property of Francis Laurent, the father of Toinette,* and Augustin, commonly called Tintin by his companions and family. The other cottage is the sole estate of John Louis Gagneux, of his wife and three children, the two eldest of which are placed as apprentice gardeners at a neighboring castle, and the youngest, little John Louis, who is only five years old, goes every morning with his mother to the fields, and always returns laden with a little bundle of wild convolvuluses for his rabbits, and then walks by the side of his mother, who is carrying some grass for her cow. As soon as John Louis has deposited his convolvuluses into the rabbit warren, he asks his mother whether he may go and play with his cousin. "Yes, child," says his mother, "but do not go far, as your father will soon be home, and I am going to get the dinner ready." John Louis makes but one skip from his door to that of his aunt Laurent's, and as he enters inquires "where is Tintin?" "Tintin," answers little Toinette, who is busy preparing some sallad, "did'nt you meet him? he must be over there near the mountain." "Who told you so?" asks Mrs. Laurent, angrily; "I rather believe he is gone to meet the boys returning from school." "It is very likely," returned Toinette; "I'll warrant he is not there, he is too much afraid to be forced to go to school, for fear of being made to read the sluggard!" "Would'nt one really say, Miss Pert, that you were doing a great deal?" While the mother and the daughter are quarrelling together, John Louis perceives Tintin with his bare feet in the dust, endeavoring to follow a carriage which is ascending the hill; he sees him extend his hand, and then suddenly throw himself on the ground and pick up something, and then sees him run with all speed towards the village. "What is the matter?" said John to him. "Come, come," replies Tintin, "we must not let old Simon hear us;" and John Louis begins also to run with him, until they reach the place where a cake woman every morning spreads her table, in the hope of selling some cakes to the travellers descending the mountain. Tintin throws two pence on the table, and the woman gives him a piece of gingerbread. This sight made John open his eyes with surprize: "Where did you find those pennies?" inquired he. "Aha, it was an old lady who threw them to me; did'nt you see her? Oh, it will be still better to-morrow; Peter Cloud must show me how to be a wheel." "A wheel, what is that?" "O, it is very pretty: first you place your two hands on the ground, and then you turn in the air, but one must'nt be careless, however, for you would fall under the carriage and it would pass"—"That must be a very ugly game," interrupted John Louis, "and there is nothing to gain by it." "How stupid," exclaimed Tintin, shrugging his shoulders; "have you not seen the nice meal that Peter Cloud makes every day?" "I have." "Well, he gets money with which to obtain those white rolls and delicious sausages by making the wheel." "Indeed!" said John, with an air of astonishment. "It is as true as my name is Tintin. I shall soon earn as much, but don't you go and tell it to that old dog, blind Simon: the wretch! he would whip me as he did the other day, when I was on one side of the stage. O, how he whipped me! he was so angry not to be able to get all the coppers which were thrown from the stage. I was somewhat bold too, to gather the money up while he was beating me. When I shall be older I will pay him for it; I shall tell travellers that he is only blind of one eye."

While uttering these menaces, Tintin broke a small piece of gingerbread to give to John Louis, who was all the while admiring the genius of his wicked cousin.

John returned home just as his father was beginning to eat a good dinner, the savory fragrance of which was wafted far and wide. Hastening in, as he knew that his father disliked his returning late: "You know I dislike your coming at such a late hour," said his father with a firm voice. "What are you doing there on the highway with a company of mischievous little vagabonds?" "Father, I was with cousin," answered John Louis, twirling his cap between his fingers, without daring to raise his eyes. "Your cousin; truly, your cousin is not better than any of them, he is a lazy boy, who will never have a penny."

"O, for that, dear father, he gets plenty of money;" and John related with much naivete how Tintin obtained it, and his wish to learn the wheel in order to have money too.

"What," said the father, "is it possible you would be in the society of little rogues to ask alms? What! to stretch your hand out to receive charity? beg a penny, the son of a peasant, the son of an old soldier of the Great Army!* My son, you ought to be ashamed, when you want nothing." John Louis began to weep. Then the father said that his nephew should be sent to school, for he would then be a good boy, and then something could be made of him. But Tintin's father was so much engaged with harvest that he did not pay any attention to his son, and Mrs. Laurent spoiled him completely. Tintin, by the lessons of Peter Cloud, became in a short time as expert as himself in the talent of making the wheel, and could run a mile and a half plaintively begging "one penny, if you please." While Tintin endeavors to excite pity by untruths of all sorts, John Louis pursues a far different course: he goes in the morning to school, and when he returns, he cultivates alone a quarter of an acre of grape vines, which his father gave him the day he attained his twelfth year. The crop belongs to him, and since two years he has all the importance of a proprietor, with its fears and agitations. He takes the greatest care possible to prevent weeds from growing between the vines, and in his imagination already fancies what he will do with the proceeds of his little vineyard. That is already decided; the amount will be employed in purchasing a jackass to relieve his father from his severe toil. What joy he feels in giving such a present to his father, and this with the fruit of his labor, for if the vineyard had not been so well cultivated it would not have yielded so much, and would not have produced the sum necessary for his intended purchase. With what gladness does he anticipate the moment in which he will return from the Nemours market, mounted on his new purchase.

While he was reflecting on his happiness, the recollection of Tintin came over his mind, and he mentally asked himself what could have become of him, since one morning early he disappeared from the village with Peter Cloud.

"That Peter Cloud," thought he, "was a bad fellow; he was dismissed from his master's, the locksmith, because he stole the old iron; he has probably given poor Tintin bad advice: both will end badly. I am sorry for it, for I loved that poor cousin, and if my father had not forbidden my seeing him, I might perhaps have prevented him from leaving the country. It is now four years since he left; he must be tall now, he was two years older than me. What trade does he follow in that Paris which he so much wished to see? Perhaps he has got rich, and is become a *gentleman*, and would not recognize me his cousin John Louis."

At this very moment when John Louis was making all these suppositions, sitting at his door at the dawning of the day, eating a piece of bread and cheese, and while waiting for his father to rise, he hears the distant

* A French diminutive of Antoinette.—[Translator.]

* A term of distinction for the army which followed Napoleon, in his disastrous journey to Russia.—[Translator.]

rumbling of some carriages travelling slowly. He soon distinguishes two immense carts, escorted with mounted guards. Curiosity makes him run to the road to see the convoy closer; it is a number of persons which they are conveying to their place of destination, where they are to be at hard labor. John Louis hears them sing, laugh, and swear. The first that he notices have lengthened countenances, and he observes others seated on the straw, and appearing to be in the deepest affliction. Among these, towards the end of the uncovered cart, there was one young man who hid his head with his hands, as if he was fearful of seeing the object of an afflicting remembrance. Perhaps it is shame that makes him conceal his countenance, that he may not be known. But when he passed before the village church, he gave way to an involuntary feeling; he clasped his hands, and raised his eyes to heaven. Then John Louis gave a terrifying shriek; he sprung towards, and caught hold of the bars, notwithstanding the efforts of the guards to prevent him; for time, which effaces and changes the features, together with pain and remorse, could not hinder John Louis from recognizing his cousin. It is truly him, it is that unfortunate child whom idleness first made a *beggar*, and afterwards a *thief*.

The tears which flow over Augustin's face, when he felt himself clasped in the arms of John Louis—the generous devotedness of the peasant boy for his guilty friend—inspired the officer who had charge of the prisoner with some pity. He allows John Louis to remain near the prisoner while the horsemen are feeding their horses. It is then that he learns, that, led away by the perfidious advice of Peter Cloud, Augustin made use of false keys fabricated by his accomplice, to enter into the house of a wealthy banker, whose chest they had rifled, when they were caught just upon the eve of leaving the house laden with their booty. The proof of their guilt being so evident, their sentence could not be doubtful, and the miserable Augustin felt it with all the horror of a withering remorse.

He was a hundred times more to be pitied than the villains with whom his crime associated him; he felt he was not born to fall into this deplorable degradation, and the idea of the honest and honorable existence which he might have obtained in laboring to benefit his family, augmented his despair. Nevertheless, he wished to raise himself, at least, in his own eyes, in bearing his misfortune with courage. He had borne the cruel operation which had just rivetted his without a murmur; he had entered the fatal vehicle without shedding a tear; but he did not imagine that that horrible procession would have passed in his own native village, and would stop at the tavern next door to his father's humble dwelling; and the fear that those who inhabited that dilapidated cottage would perceive him, and more than all, the affectionate demonstrations of love of his cousin, had triumphed over his strength, and he swooned in John Louis' arms. When John saw him in that state he sprung from the cart, and snatching the little glass of brandy which one of the horsemen was going to drink, he made poor Tintin swallow it, disregarding the sabre blows which the horseman was giving him. Augustin opens his eyes and wishes to shake hands with his cousin, but is prevented by the cord which fastens him. The signal for the departure is given; in vain does John Louis throw himself at the foot of the commandant to obtain one moment more; in vain he points to the pale countenance and distorted eyes of the young prisoner. "Look at him," said he, with a despairing voice; "if he is not relieved he will die." "So much the better," replied the officer, "it will be one less; there is always enough of those rogues;" and the vehicle begins to move.

But the commandant, touched with the distress of John Louis, promises him to treat his cousin with some regard, and to let him receive the assistance which his family may send him.

John Louis waits to hear no more; he runs home and takes out of his little box the little treasure which he had amassed through his labor—the sum which was to give him so much joy in purchasing a present for his family—and puts it in a little bag, hides it under his arm, and runs with all haste to come up with the cart.

The commandant was faithful to his promise, and allowed him to come near the prisoner; the money is carefully deposited: Tintin will not be without some succor, and that little sum will serve to soften his captivity. He received it, and raised his eye to heaven, hoping that the Almighty would grant him pardon on repentance.

John Louis returns to the village with his eyes all red and swollen. "Well," said his father, "are you going to the market? if we come too late the best ones will be sold." "It is not necessary to go, father," said John Louis, somewhat abashed; "I have not the means of buying any." At that moment his mother, who had heard him, embraces him, and relates, half laughing, half weeping, the scene which has just occurred, and which she saw from the garret window. "Come hither, then," said the father to his son, clasping him in his arms; "come and thank your father for having made of you a good boy, and not to have bred you up to beg alms."

A. M. P.

Long Island, Sept. 1833.

Mrs. Parmentier's Garden—Mr. Spooner's Vineyard. By the Editor.

One cold chilly afternoon of last month, when over-coats were very comfortable, and a blazing fire not unacceptable, we took a ride to see what summer had been doing in Madame Parmentier's Garden. Some of the flowers were in their full and gay attire, and others in their modest and neat robes—all beautiful and lovely. The fruit too, particularly that on dwarf trees, and the monthly strawberries, sustained the reputation of the present season. The hoe too must have been very diligent during the drought of August, and early part of September, for scarcely a single weed could be found.

Mrs. P.'s greenhouse plants always look well. The elegant Amaryllis belladonna and A. Johnsonii were in full blossom—the roseate tint of the former affording a striking contrast with the deep scarlet of the latter. The Verbena aubletia, and a species of Zephyranthes, among numerous others, were beautiful. The king of flowers, the many-hued Dahlia, justly and deservedly claimed our attention and homage: for, indeed, there was a modern Goliah, and William the IV, too, in company with Sir Isaac Newton; and near them were the Queen of Wurtemberg, Countess of Liverpool, and other members of the royal family, among them Augusta, La Brilliante, and Rubella. Continuing our walk towards the landscape garden we fell in company with the Hon. J. Lowell, of Roxbury, Mass., Miss Hamilton, of New-York, in a brilliant scarlet dress, Mrs. Wm. L. Stone, of the New-York Commercial, in rose-colored attire, and N. Herbemont, Esq. Columbia, S. C. in a royal purple vestment, the produce, we suppose, of South Carolina silk culture.

There were many other beautiful plants which we designed to enumerate, but have not leisure. Mrs. P. has greatly increased her Chinese mulberries, *Morus multicaulis*. Orders to almost any extent can be met, and on very reasonable terms. The beds of roses, in various parts of the garden, made a fine appearance. Every year the increased growth of the standard trees and shrubbery adds to the beauty of the style of the garden.

Leaving Mrs. P.'s we prolonged our ride to the small vineyard of Isabella grapes, belonging to Mr. Spooner, of the Long Island Star. Mr. S. and his family were driven away the previous summer by the fever and ague. His tenant had suffered the luxuriant weeds to grow to a height that destroyed the crop. We can commiserate with friend Spooner, by having experienced, for the last three or four months, all the debilitating effects of the fever; and if it would be any pleasure to him, we will show him our garden, containing full as many fine thrifty growing weeds.

The following communication came to hand after the Farmer for October was wholly in type; but as it is a subject of much importance, and especially during the fall season, we give it, to the exclusion of other matter, that our readers may avail themselves of its benefits. Further communications on the subject are solicited, from those whose researches are able to throw light upon it.

Messrs. Editors,—It is with no small degree of surprize that I observed in your paper, a communication from Prof. Rafinesque, in which the use of Saltpetre, for the purpose of preserving meat, is condemned in the strongest terms. A commmunication from such a source will be received by a great mass of the community as fact, without inquiring whether it be so or not; and as the article in question is most palpably erroneous, I feel it to be due to the public that its errors should be exposed. In the first place it is stated that "the part of saltpetre absorbed by the meat is nitric acid, or aquafortis, a deadly poison," than which nothing can be more erroneous. If Prof. R. can decompose nitrate of potassa (saltpetre or nitre) by means of animal muscle, he has gone one step further in chemistry than any other person. On the same principle may we say that common salt is decomposed, and that the part which enters the meat is muriatic acid, as powerful a poison nearly as aquafortis. Mr. Rafinesque states that he "never could understand why this substance was added to common salt in curing meat, except that it is said to make it look better." As this is not the object of the nitre, I will briefly state its use. By the addition of a small quantity of it, the meat is prevented from absorbing a far greater amount of common salt, while, at the same time, it is equally as liable to "keep," and in consequence of this diminished quantity of salt, the meat is rendered more tender, and retains its original sweetness to a far greater degree than it otherwise would. I would not, however, recommend a large quantity of saltpetre, as it would thus prove injurious instead of beneficial. About

four ounces to every 100 lbs. of meat will be amply sufficient. At the same time a small quantity of refined sugar will materially add to its sweetness.

The very respectable source of the communication referred to above has induced me to be somewhat more lengthy in my remarks than I otherwise would have been, but I trust that the importance of the subject will be a sufficient apology. Yours, &c. MEDICUS.

NEW-YORK FARMER.

OCTOBER 1, 1833.

AGRICULTURAL FAIRS.—October is the month in which are held most of the Fairs of the County Agricultural Societies of this State. We should be pleased to have accounts of their proceedings.

The Monroe County Agricultural Society unites with that of the Horticultural Society of the same County, in holding a Fair on the 23d of October. An Oration will be delivered on the occasion.

LOCUST TREES.—When we were on Long Island, a few weeks ago, we noticed some groves of trees of stinted and feeble growth, from the ravages of the borer. Scraping the trees, and washing them with strong ley, at this season of the year, will destroy the eggs.

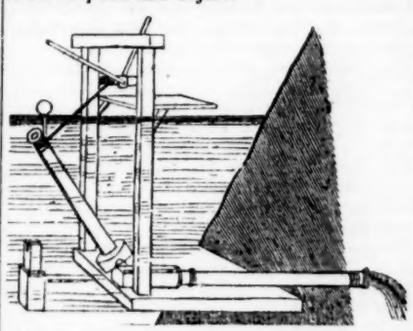
LOW TRAINING OF GRAPES.—There appears to be very considerable concurrent testimony in favor of low training to prevent mildew; or rather, those grapes found growing very near the ground are found to be less liable to this malady. On the supposition that mildew is a parasitic plant, and that moisture is favorable to its germination and increase, the inquiry arises, are these low grapes less moistened by dews and rains than those that are higher? In ordinary seasons we think they are. They are protected from dews, mists, and light rains, by the over-incumbent leaves and branches. Although they are not as early dried by the rays of the morning sun, yet the moisture is more gradually evaporated, and they receive more radiated heat from the earth. After all, the vine culture, particularly the exotic, is in its infancy in our country.

CHINESE MULBERRY—*Morus Multicaulis.*—This plant, independent of its great value for the feeding of silk worms, is very much admired as an ornamental tree. The large and silky appearance of its foliage affords a pleasing contrast with that of most other trees. In the vicinity of Boston, there are, we understand, quite a number of considerable size. They are of very luxuriant growth, and propagated with much ease, and with great multiplicity. As far as experiments have been made they are equal, if not superior, to the white mulberry, in the quantity and quality of the cocoons; and in abundance of foliage they are, decidedly, preferable. They are now so cheap that every farmer can afford to buy a few. At the Agricultural Warehouse, No. 87 Washington street, they can be obtained at one third of the price they were sold at last fall.

ROLLING WHEAT GROUND.—Farmers are often heard mourning the effects of winter in injuring their wheat fields. The great and sudden changes of temperature throw the roots out of the ground, and thus kill the plant. Rolling the ground after the wheat is sown has a very great tendency to prevent injury from frost and thaws. Next harvest, many a one, we dare say, will lament that he did not get and use a roller.

DRAINING.—[We insert the following cuts and descriptions as subjects of reflection for farmers and mechanics. There is a wide field for mechanical ingenuity in rural pursuits.]

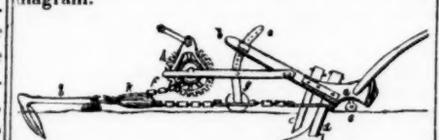
The inconvenience of an over-moist soil is but little felt in the neighborhood of the British metropolis. There are, however, many parts of England, in which draining becomes a most important desideratum. The first thing to be attended to is the elevation of the part to be drained: and as in large drains it becomes necessary to keep the channels themselves open, it is advisable to employ an apparatus similar to that represented in the annexed engraving, to accomplish this object.



Now, if we suppose the place to be drained situated in the neighborhood of the sea, it will not be advisable to admit a free communication at all times; but it requires a free passage of water at stated periods, for the purpose of cleansing the drain, and at different heights. The diagonal tube, supported by the rope coiled round the cylinder, may be readily placed at any required angle. When we wish the water in the drain not to exceed a certain height, we have only to regulate the winch accordingly.

We have thus briefly noticed the drain on a large scale. A very simple mode of draining land, which is wet merely from the retentive nature of the soil, and which has been practised with success, consists in adding to the felly of a six-inch cart wheel, a piece of wood upon which is a triangular rim of iron. That side of the cart containing this prepared wheel, is then loaded, till the piece of iron indents the soil to the depth of six or eight inches. These furrows are made in lines from five to ten yards asunder, the grass is merely pressed down, but not destroyed, and they generally grow up in the course of the year. They should, therefore, be made annually, at the approach of winter; but the work is so easily executed, that a single person, with two old horses, will go over from ten to twenty acres in eight hours.

DRAINING PLOUGH.—This is a very important agricultural implement, of which we give a diagram.



We may suppose a case in which its powers would be indispensable. It becomes necessary to cut a trench for the passage of water; and the furrow being too deep for the common process, the anchor or hook, *l*, is inserted in the ground. We have thus a fixed point for resisting the action of the pulley, *k*. If power be now applied to the handle at top, it communicates motion to the wheel, *h*, with an enormous increase of power, and the acting portions of the plough, *c d*, are forced through the soil. The arrangement at *a b c*, enables the conductor to give the required depth to the furrow. It will be obvious that the pulley, *g*, by resting on the ground, tends to diminish friction.—[British Cyclopædia.]

WHEAT AFTER RUTA BAGA.—A writer in the New-England Farmer notices a wheat crop sowed after Indian corn and ruta baga, both of which were manured. That taken from the part where the turnip had grown was much inferior. This, he says, confirms his belief and experience that the Swedish turnip severely scourges the land. This is contrary to the general opinion.

WHEAT IN ILLINOIS.—In one county in Illinois, 900,000 bushels of wheat have this season been raised.

LARGE WHEAT CROP.—Mr. W. T. Codding, of Bristol, Ontario county, obtained fifty-one bushels of the velvet or crate wheat from an acre. The remainder of the field would, it was thought, average forty bushels.

LARGE OATS.—Mr. Jacob Smith, of Duxbury, Mass. raised seventy-four bushels and three pecks of oats from four-fifths of an acre.

FALL TRANSPLANTING.—As soon as a plant has so far completed its summer growth, or matured its wood, as to begin to drop its leaves, it may be transplanted with safety. Transplanting in the fall, in preference to that in the spring, has many experienced and decided advocates. No person who wishes to set out plants should neglect to do it in the fall, if he has the means and the time. If delayed until spring, it is often put off for years. More depends on the care in taking up the plants than on the season. Last spring we took up an apricot tree, 15 to 18 feet high, in full bloom, and carried it half a mile. It ripened fruit, and showed no indications of having received injury. On taking it up the roots were immediately put into a large tub, and covered with water and soil. Whether transplanted in the fall or spring, the fibrous roots should be exposed to the air as little as possible. When a plant is in foliage, or in a growing state, it is curious to see how soon and how greatly it is affected by an exposure of the roots to the sun or air the shortest possible time. A fish out of water, or a person immersed in it, is not more sensitive.

MULBERRY HEDGES.—A writer thinks a secure and permanent hedge may be made in a shorter time than with any other shrub now used for the purpose—certainly of more profit.

PEACH PICKLES.—Goodsell's Genesee Farmer says, take a half bushel of hard peaches, into each of which stick two cloves; cover the peaches with hot vinegar, into which have been put two pounds muscovado sugar. In a few days they will be a fine pickle.

PRESERVATION OF POTATOES.—A Paris Journal recommends to immerse potatoes for a few minutes in hot water, or to put them into a heated oven—care being taken that the skin be not broken, and that they be not too dry when put in the oven. Treated in this way they can be preserved for years.

TOMATOE PRESERVES.—A Pennsylvania paper recommends to take tomatoes nearly ripe, and to prepare them in the usual manner with other preserves, with sugar and molasses. We have the testimony of a lady to corroborate the above by her experience.

Anniversary of the Newburgh Horticultural Society, September 12, 1833.

We are especially pleased to record the proceedings of this spirited Society. It is very creditable to the members that they should have made such an excellent display, and afforded so high an entertainment to their fellow citizens. We give the account as found in the Newburgh Gazette :

On Thursday last, according to previous notice, the Newburgh Horticultural Society celebrated their fifth anniversary. The capital band from Bedlow's Island, furnished by the liberality of their honorary member, William G. Belknap, U. S. A., announced the opening of the exhibition, by the performance of a grand march, from the balcony of the Orange Hotel. On entering the Long-Room, a display far surpassing our most sanguine anticipations presented itself; particularly as some of the members had their usual diffident misgivings as to their ability to offer any show worthy of public notice. On this, as on all other occasions, nothing was introduced into the exhibition not the growth of our immediate vicinity, whic h we believe is not the practice in other Horticultural Societies; and with two exceptions, (the premium for foreign and native grapes,) every article was the produce of gardens of *members* of the Society. The peaches, plums, pears, and melons, were in the greatest variety, abundance, and perfection. Of grapes, the show was not equal to that of the preceding celebration in 1831. As a rarity, we notice some ripe figs from the garden of Aaron Belknap, Esq.; there were also several specimens of Nectarine, rather an unusual sight in our vicinity, and those presented by the president of our bank, Wm. Walsh, Esq., were remarkable for size and beauty.

The premium peaches were lemon clingstones, from the garden of the Orator, Edward Armstrong, Esq., and a premium was also awarded to the Rev. J. Brown, for his very fine new seedling peaches, a variety which promises to be well worth propagating from. Of water melons, an uncommonly large sized one, raised by Col. D. Crawford, received the premium; we also tried one from the garden of C. H. Bellows, Esq., which struck us as rather sweeter than the former, and only inferior in size. The best specimen of foreign grapes were presented to the Society by Mr. L'Hommedieu, of Montgomery, to whom, although not a member, the stated premium was awarded, and the same to Mr. B. F. Buckingham, of this village, (also no member,) for his superior display of native (Isabella) grapes. Fine specimens of rare vegetables were also disposed at side tables, among which we distinguished plants of the *tree* cabbage, by C. H. Bellows; cocoa-nut squash, egg-plants, and some gigantic Indian corn, (a Mexican variety,) the seed of which was imported by Mr. Ledyard, but we cannot recommend its cultivation to our farmers, unless (in Jonsonian phrase) they will be satisfied '*with propagating procerity*,' and nothing else. As connected with Horticulture by the cultivation of the mulberry, which the raising of silk requires, we must also notice the interesting specimens of cocoons sent by J. H. Walsh, Esq.

The room was decorated with great taste by festoons of ever-greens and flowers intermingled, wreathed by the hands of some of our young ladies; and around the sides a profusion of greenhouse plants were arranged. On the tables the fruit was laid out to much effect, interspersed with magnificent bouquets of flowers, but its most conspicuous ornament was the superb decoration, for which the Society are indebted to the taste and ingenuity of our young friend, Mr. Jackson Downing. Nothing could be more exquisitely designed or neatly finished. The form was that of a circle of pillars supporting a dome, the whole composed of the leaves of the Thuja, (arbor vitæ,) intermingled with every variety of flowers, the summit of the dome being overlaid with the richest double dahlias. The floor of this fairy temple, aptly denominated that of Flora, was also inlaid with a mosaic of flowers, and minute specimens of the smaller fruits, such as currants, strawberries, raspberries, &c. &c. A large body of our citizens enjoyed the exhibition, moving round the centre tables to the inspiring music of the band, until the hour for the address was announced. This duty had devolved upon Mr. Armstrong, who was listened to with unabated attention and delight by a numerous and respectable auditory. Fine taste, sentiment, and scientific information distinguished this production, of which we should not be contented with taking this brief notice, did we not know that the Address would be published in accordance with a request of the Society, expressed in their vote of thanks to the Orator, and with which he has obligingly complied.

After the Address and the annunciation of the premiums, the Society and its guests adjourned to the room of the exhibition to partake of the fruit and other refreshments.

The celebration gave general satisfaction, and is highly creditable to the Association, and we should be happy to hear that it has been the means of procuring a large accession of new members.

The following is a list of the premiums awarded for the year 1833:

February 26—For the best winter squash, to Samuel Talman.

March 20—Best two heads winter cabbage, D. C. Verplanck; best late celery, D. C. Verplanck.

April 14—Best and earliest four heads lettuce, D. H. Barclay.

May 28—Best and earliest one quart green peas, Samuel Talman; best and earliest one quart English white strawberries, Wm. Roe; one peck apples in best state of preservation, Messrs. Downing.

June 11—Best and earliest two heads cabbage, Samuel Talman; best and earliest half peck potatoes, Wm. Roe; best and earliest two cucumbers raised in hot bed, D. Ruggles; best specimen of roses, Messrs. Downing.

June 18—Best specimen of cherries, Messrs. Downing; best and earliest half peck French beans, D. H. Barclay.

July 9—Best one quart gooseberries, D. C. Verplanck; best one quart raspberries, Messrs. Downing; best and earliest two cucumbers in open air, Messrs. Downing.

July 23—Best one dozen apricots, Dr. James M. Gardiner.

August 6—Best and earliest one quart Lima beans, E. Sanxay.

August 13—Best and earliest four heads celery, D. C. Verplanck; best and earliest two egg-plants, Wm. Roe; best specimen of tulips, Wm. Roe and Messrs. Downing; best two heads of cauliflower, J. W. Knevels; best one quart of strawberries throughout the season, Messrs. Downing; best two musk melons at anniversary, Messrs. Downing; best water melon, at anniversary, D. Crawford; best and largest two ripe egg-plants for seed, at anniversary, J. W. Knevels; best peaches at do. E. Armstrong; discretionary premium at do., Rev. J. Brown; best pears at anniversary, C. Ludlow; best and largest plums at do., Messrs. Downing; best foreign grapes at do., M. L'Hommedieu; best native do., B. F. Buckingham; handsomest bouquet of flowers, at do., Mrs. Wm. C. Hasbrouck; best two do., Miss Verplanck; for the greatest variety of annual flowers, the premium of a Chinese Rose-scented Pæony, offered by Messrs. Downing, Miss Verplanck; for Flora's Temple, an ornament for the Society's table, by Mr. J. Downing; for the best specimen of nectarines, Wm. Walsh; for the best and neatest garden, Wm. Roe.

Anniversary celebration of the Albany Horticultural Society, September 14, 1833.

The fourth anniversary of this useful society was celebrated at the Mansion House, kept by J. W. Bradstreet. The following is a list of the flowers, fruit and vegetables that were exhibited.

From the garden of Isaac Denniston.—Half bushel Pears, two varieties, viz.: Seckel and Rousselet De Rheims, or Spice Pear. ½ peck Plums, five varieties, viz. Chancellor Gage, Red Gage, Banker Gage, Royal Blue, and a very fine seedling Plum. 2 doz. clusters Grapes, viz. Sweet water and Frontignac.

From the garden of D. B. Slingerland.—1½ peck Peaches, six varieties, viz. Galland, Chancellor, Malacaton, Teton De Venus, Old Mixon and Lemon Cling, and a number of different varieties of Seedling Peaches. 1½ peck Pears, four varieties, viz: Broca Bergamot, Summer Bergamot, Vergalieu and Bon Chretien. ½ bushel Apples, five varieties, viz: Samson Apples, Fall Pippin, Craam, Surprise and Lady Apple. Five varieties Grapes, viz: Winne, Burgundy, Sweet Water, Golden and White Chasseles. Three varieties seedling Plums.

From the garden of Aaron Thorp.—1 dozen superior Muskmelons, four varieties, viz: Nutmeg, Citron, Persian and Pine Apple. 2 very fine and large Watermelons. 2 large Citrons, and a very fine specimen vegetables, Celery, &c. &c.

From the garden of T. W. Ford.—1 peck Pears, three varieties, viz. Vergalieu, Orange Bergamot and St. Germain. 2 or 3 quarts yellow seedling Gage Plums.

From Gen. R. Westerlo.—A basket of fine seedling Plums.

From the Albany Nursery of Messrs. Buel and Wilson.—250 varieties of splendid double Dahlias. A large basket full different kinds of Flowers. ½ dozen Melons, and a specimen of the India Rare-ripe Apples.

Presented by Leveret Cruttenden.— A glass Vase, with a number of beautiful white Cocoons, the products of his Silk Worms; also, a specimen of the white China Mulberry leaf.

From the garden of Jeremiah Smith.—A number of fine large yellow Egg Plums.

From the garden of Col. J. K. Paige.—A large variety of vegetables.

From the garden of Gen. S. Van Rensselaer, jun.—Rare and fine vegetables, consisting of ten different kinds, some of them new and choice varieties.

From the garden of Theophilus Russell.—1 doz. heads of very fine and large Celery.

From Wm. Prince & Sons, Flushing, Long Island.—Twenty varieties very splendid double Dahlias, labelled with their different names. 2 superior Williams' Bon Chretien Pears, of large size and fine flavored. 1 cluster, weighing 24 oz. Syrian white grape, a new variety, and of exceeding fine flavor.

At half past 11 o'clock, A. M. the doors were opened for the admission of spectators and visitors, and a large number of ladies and gentlemen attended the exhibition.

At 2 o'clock, P. M. the annual Address was delivered by the Rev. Dr. Willson.

At 3 a party of gentlemen sat down to a dinner prepared by Mr. Bradstreet, in the excellent manner and style for which his house is celebrated. Among the guests were the Governor, the Recorder of the city, and other persons of distinction. We cannot omit to notice the large and well formed bouquets of flowers from the Albany Nursery, and particularly the Pyramid of Dahlias, from six to eight feet in height, and upwards of three feet in circumference at the base, comprising 250 varieties of the double Dahlia and other flowers, and forming altogether a most splendid combination, very imposing and beautiful in appearance. It was designed and arranged by Judge Buel, exclusively of the flowers from the Albany Nursery. Jesse Buel, Esq., President of the Society, presided, assisted by Isaac Denniston, Esq., Vice-President, and by D. B. Slingerland, P. V. Shankland, and A. Gallup, Esqs., Committee of Arrangements. After the cloth was removed, a number of toasts were drank, of which the following have been obtained for publication :

By Jesse Buel, Esq., President of the Society. *The Garden*—May it be our pride to render it what it once was in Eden, the abode of innocence and bliss.

By Gov. Marcy. *State Horticulture*—With a diligent hand to pluck up the weeds of vice; a liberal one to sow the seeds of private and public virtues; a sunny exposure for the flowers of genius and merit; and the fruits of industry, health, and wealth, for skilful and laborious cultivators.

By Isaac Denniston, Esq. *Horticultural Societies*—A free interchange of information and knowledge of improvements in the arts among the various societies, the most effectual mode of attaining their important object.

By D. B. Slingerland, Esq. *Agriculture, Horticulture, and Floriculture*—The most useful, rational, and delightful employment of the human family.

By A. Gallup, Esq. *Agriculture, Horticulture, and Mental-culture*—May the two former never languish for want of the latter.

By Col. P. V. Shankland. *The United States*—Destined to become, with experience and cultivation, the garden and nursery of the world.

By Col. McKown. *Agriculture and Manufactures*—The one to be respected, and the other protected.

By J. Van Beuren, Esq. *Agriculture, Commerce, and Manufactures*—Each to be respected—all to be protected.

Harmanus Bleecker, Esq. being called upon for a toast, said—

It gives me pleasure to have this occasion to offer a slight tribute of respect to a foreigner, who has just left this city after gratifying his friends by a visit of some days; and who, after passing some years in a diplomatic capacity in this, is now about to return to his own country. With polished manners, a cultivated mind, and discriminating and just views concerning the United States, he has won here the sweet fruit of 'golden opinions,' and will return to Holland, we hope, to be useful and honored.

Mr. Bleecker then proposed the following toast, which was cordially received:

Rutger B. Huygens—A climbing plant from a land of gardens.

By Solomon Southwick. *Horticulture*—The first and most beautiful of Arts, instituted by the first, most beneficent, and most perfect of beings; for it was 'the Lord God' who first 'planted a Garden eastward in Eden; and there he put the man whom he had formed.' May this momentous fact in sacred history strike so deeply into the hearts of 'Horticulturists,' and of all others, that the United States shall become a second Eden, in the fruits of piety to God and love to man.

By E. Livingston, Esq. *The Grape*—Its juice maketh the heart of man glad.

By Col. Van Schaick. *The virtuous Cultivators of the Soil*—

'*Motion* is in their days—*Rest* in their slumbers,—
And *Cheerfulness* the handmaid of their toil.'

By Wm. Seymour, Esq. *The majestic Hudson*—Uniting two sisters, Albany and New-York, in the bonds of affection and interest—May they never be separated by shoals and quicksands, but live in harmony and union under the care of an enlightened government and a benignant heaven.

By Judge L'Amoureux. *Albany Horticultural Society*—May its efforts to preserve existence be seconded by the citizens who are to be benefitted by its labors.

By D. P. Marshall, Esq. *Patronage*—The only effectual protection to any interest—May the Horticultural Society realize that protection in its fullest extent.

By Mr. J. A. Tracy. *Horticulture*—It has realized the divine gift to man of the fruits of the whole earth.

By Solomon Southwick, Esq. *The Memory of De Witt Clinton*—The illustrious patron of Horticulture, Agriculture, and of every useful Science and Art—Just and benevolent as a man; fearless and independent as a magistrate; great and unrivalled as a statesman; pure and incorruptible as a patriot.

Premiums were awarded to the following gentlemen:

Largest and best variety of vegetables, Stephen Van Rensselaer, Jun.; on the next largest and best variety, John K. Paige; on the largest and best variety of fruit, D. B. Slingerland; on the next largest and best do. Isaac Denniston; on the largest and best variety of flowers, Buel and Wilson; on the next best, J. Whalen; discretionary premium on celery, Theophilus Russel; honorary premiums to T. W. Ford, Aaron Thorp, R. Westerlo, J. Smith, L. Cruttenden, and Wm. Prince & Sons.

PENNSYLVANIA HORTICULTURAL SOCIETY EXHIBITION.—In the Philadelphia Inquirer, of the 12th of September, we find the following account of the Exhibition of this enterprising Society. The patriotic individuals, through whose agency we are indebted for such a captivating grand display of nature's choice productions, are diffusing far and wide a taste for the most useful and refined of arts and pursuits.

The Exhibition of the Pennsylvania Horticultural Society, at the Masonic Hall, was superior to any thing of the kind we ever witnessed. The rooms were crowded yesterday from the moment they were opened, until late in the evening, and but one opinion prevailed. All were delighted and gratified, all commended the taste and skill of the Committee of Arrangement. We heard several foreigners observe that they never witnessed any thing superior at home; and one Parisian, who was remarkable for the enthusiasm of his admiration, stated, that although he had witnessed several exhibitions of the same nature in Paris, they were far inferior to that before him. It is impossible to enter into details. The Fruit Table, which indeed presented a rich and sumptuous collection, attracted most attention. It was almost impossible to prevent some of the children who accompanied their parents, from an attempt to indulge their excited appetites. Indeed, some of the older spectators confessed that they never felt a stronger desire to possess that which did not belong to them. The taste must indeed be inactive and torpid, that is not excited by the contemplation of *such* a picture. The Peaches of Mr. Hatch, for example, would have raised another Eve—while the Pears of half a dozen contributors could not have but made every mouth water.

We will mention some of the Fruit Plants, Vegetables, &c. that attracted the greatest admiration.

PEACHES.—Large and delicious free stones, presented by Mr. Bates, of Camden, N. J.

Rodman's Cling, by Joseph L. Hatch, of Camden, N. J. There could not be more delicious fruit.

Lemon Clings, by the same gentleman.

Seckel Pears, not quite ripe, but admirable specimens, from the original tree in Schuylkill Point Meadows. Presented by G. Bastian, Esq.

Seckel Pears, by S. Gratz, Esq.; J. D'Arras, Esq.; Benj. Lehman, Germantown; John Heisler, near Burlington; Adam Price, Germantown.

Pound Pears, W. Lehman, Germantown.

Butter Pears, Alex. Parker and others.

All of the above being large of size, rich and delicious of flavor, as we are assured by those who have tasted them.

APPLES.—Some splendid Pippins were in the exhibition—also, some unequalled Maiden Blushes. The Fall Pippins of John Heisler, of Germantown, were particularly remarkable.

The collection of Grapes was abundant and creditable. We may mention, as especially deserving of notice, the White Winter Malaga Grape, from the garden of Pearsall Serrill, Esq. the Powel Grape, from the garden of Joseph Head, Esq.; the Clapier Grape, offered by J. Haydock, Esq.; the Isabella Grape, from the garden of T. Stewardson, Esq.; the Bland Grape, by B. Duplaine; the Catawba Grape, by D. E. Ogden, of Swedesboro', N. J., &c.

Some splendid Spanish Melons, by J. L. Hatch, Esq., were worthy of note.

The October Plums, of Mr. Alexander Parker, were by no means slow of growth, or diminutive of size. His Quinces were equally entitled to compliment.

The Figs of Mr. Joshua Longstreth were large, rich and juicy—creditable in all respects. We observed one or two of the ladies present bending a thievish eye upon them, but, as they held their hands behind them, no harm was done.

We have not space to allude properly to the splendid collection of plants. The Messrs. Landreths have contributed many of the most valuable and beautiful. The names of Messrs. Robert Carr, Alexander Parker, J. B. Smith, J. M'Aran, J. Longstreth, G. Pepper, A. D'Arras, M. Pierpont, and Robert Buist, should be mentioned as among the most valuable contributors to this department of the exhibition. The latter gentleman had a valuable and novel collection of New Holland plants, while the beautiful Dahlias of Mr. Carr excited the warm admiration of the ladies in particular. The variety was indeed extensive.

The Marigolds, from the garden of Mr. Frederick Huber, were very beautiful, the finest selection in the exhibition.

Mr. Pratt sent a Sunflower large enough to cover the top of a shot factory—and Mr. Huber sent a corn stalk taller than Goliah, being sixteen feet four inches high.

Mr. M'Aran sent a living Marmosette, in a cage, which was much looked at, and was placed near a glass vessel where eight or ten "fish of gold" were amusing themselves and the lookers on.

The Vegetable world of the Exhibition was perhaps the most remarkable part of it. Cabbage heads are common to this and every other country, but we confess we never saw such monsters of the species as were to be seen at the Masonic Hall, sent there from the garden of George Esher & Son, Ridge Road. The same gentlemen contributed samples of Beets, Tomatoes, &c. of their own culture, that "beat all nature."

The Turnip Beet, early Horn Carrots, Pickling Cucumber, and Orange Carrots, of the Messrs. Landreth, show that these gentlemen thoroughly understand their business.

The Beets of Mr. Hatch, of Camden; the Parsnips of Mr. Gratz; the Egg Plants, as large as watermelons, of the same gentleman; the Beets and Lima Beans, and Onions, of Mr. Anthony Felton; the Radishes and Beets of Robert Scott; the Sweet Potatoes of Mr. Bate, of Camden; the Port Carbon Tomatoes, (monsters of their kind,) &c., all deserve to be described by the Agriculturist and the enthusiast, to be properly appreciated.

To conclude, we look upon the Exhibition as one of the most creditable ever offered to the Philadelphia public, and while it shows the high state of perfection to which our Agriculturists, Horticulturists, &c. have arrived, it affords a most delightful entertainment to our citizens.

The following is from the United States Gazette:

Crowds of the most respectable visiters were seen yesterday, both morning and evening, at the Exhibition of the Pennsylvania Horticultural Society. This is one of the scenes which may be called the poetry of life. It refreshes and momentarily refines our whole being in delighting our senses by the most brilliant spectacle and the richest fragrance from the bosom of Nature. No combination of objects could be better calculated to remind us of the beauties of Creation and the bounty of Providence. It is not science, nor the eye of taste, nor the palate of the imagination, which should, alone, be highly gratified with such a display, but also the spirit which looks with wonder and homage to the Divine source of all that is ornamental

and grateful, and rejoices in whatever improves the abode, and excites, rewards, and exemplifies the innocent industry of our species.

Important additions have been made this day, in fruits, vegetables, plants and flowers. The peaches, pears, apples, grapes, melons and oranges, and the huge vegetables, drew yesterday the *gaze* of every one. No such array—so sumptuous, so *provoking*, so creditable to the zeal and judgment of our horticulturists—has been ever before presented in our country. Particular notice was drawn to the fruit of the original Seckel pear tree, still flourishing in Schuylkill Point Meadows, and to that of the grafts from it; to the extraordinary bunch of oranges from Burlington, and to the strings of another article which resembles the orange in shape more than dignity—we mean the Potato Onion. The tropical products scarcely exceed in golden or variegated lustre, some of the specimens of apples, pears and peaches, humble as these may be deemed in the comparison of honor.

Anniversary Dinner of the New-York Horticultural Society, Sept. 10th, 1833.

The annual return of this pleasing display of flowers, and the delightful feast of fruits, has ever been greeted by the admirers of Nature's beauties and riches.

"The display of fruit was very handsome; and some among them, particularly a *Bon Chretien* pear, raised in Springfield, N. J. were rare and excellent. The peaches and nectarines were abundant. Of figs, there were some very good. The grapes and melons were not remarkable. The table was ornamented with natural flowers, among which the gorgeous Dahlias predominated. A box of flowers, very prettily arranged, was sent by Madame Parmentier, and excited general admiration.

"It was altogether an agreeable entertainment, enlivened with mirth and song, and good wine."

Charles Oakley, Esq. presented 2 plates of Golden Nectarines, very large and fine; 2 plates of Seckel Pears, very fine; 2 plates President Peaches; 2 plates Orange Clings; 4 plates Old Mixon Clings; and 2 plates of a new variety of Plums.

Timothy Whittemore, Esq.—2 plates of Figs; 1 plate of Lemon Clings; and 1 plate of Vergaleu Pears.

E. Wade, Jr. Esq.—12 Bon Chretien Pears, grown by William Stiles, Esq. Springfield, N. J. three of which weighed 2 lbs. 3 oz. and of a very superior flavor.

E. Durand, Esq.—5 La Jalousie Pears, very large.

J. M'Brair, Esq.—4 bunches of Chasselas Grapes, one bunch of which weighed 21 1.2 oz.

Alexander Walsh, Esq. of Lansingburgh—several very fine bunches of the Roan Tree Berries.

Alexander Knox, Esq.—4 bunches Royal Muscadine Grapes.

Mr. Wm. Neale—7 bouquets of Flowers, very beautiful.

Mr. Thos. Hogg—several bouquets of Flowers, very beautiful, among which were 25 varieties of Dahlias.

Mr. Michael Floy—more than twenty varieties of Dahlias, some of which were very beautiful.

Mr. Shaw, Sixth street—2 plates Heath Cling Peaches, and a quantity of Flowers.

Mrs. Parmentier, of Brooklyn—a very superior collection of Flowers; among them were five seedling Dahlias, raised by herself, seventeen of the best imported varieties, and a number of other beautiful plants.

The President, J. Lorillard, Esq. presided, supported by P. Hone and C. Oakley, Esqs. Vice-Presidents, and honored by the presence of many members of the Court of Errors, as guests.

REGULAR TOASTS.

1. The President of the United States.
2. The Army and Navy of the United States.
3. The Governor of the State of New York.
4. The Mayor and Commonalty of the city of New York.
5. The highest Tribunal of the State, constituted to meliorate the harshness of Law, and to *prune* its *wild sprouts*.
6. The state of New York,—Powerful without ambition, wealthy without pride, and noble without vanity; while she is the first in greatness, she is the last in presumption! and is ever ready to make a sacrifice to the "Union."
7. The United States,—Unexampled in their united prosperity; may they be unequalled in their united duration.
8. Horticulture,—The first employment of man in his state of primeval innocence; it is the noblest science which can occupy his attention, having the highest sanction to recommend it.
9. Agriculture, Manufactures, and Commerce,—The three great sources of national wealth; united, they form the strongest safeguard of our national independence.
10. Horticultural Societies in every quarter of the Globe—While they unite their efforts, to beautify and improve the earth, its flowers, and its fruits, may they also contribute to the moral and intellectual improvement of the whole of the human family.
11. The memory of DE WITT CLINTON—"Born to exalt the glory of his native State, his life is interwoven with her history, and his name as imperishable as her existence."
12. The memory of William Wilson, the first President of this Society, our late highly esteemed and much respected advocate.
13. The Fair Sex,—The choicest flowers of our country.

VOLUNTEER TOASTS.

By the *President, Jacob Lorillard, Esq.* The Horticulturist, who unites the cultivation of the moral sense with the cultivation of the vegetable tribes.

By the 1st *Vice President, Philip Hone, Esq.* Nullification—A noxious plant, first sown by an INTRUDER in the Garden of Eden: may it be effectually eradicated from the rice fields and cotton plantations of our beloved country.

By the 2d *Vice President, Charles Oakley, Esq.* The practical Gardeners of New York—They have shown themselves worthy of public patronage; may they find their reward in a liberal public.

By Mr. *Bronson*, of the Senate. Horticultural Excellence—The *fruit* of intelligence, enterprize and industry.

By Mr. *Westcott*, of the Court of Errors. The City of New York—Not less distinguished for its liberal hospitality, than for its resources and enterprize.

By the *Mayor* of the City. The man who cultivates his own fields, and his own garden, with his own hands.

By Mr. *Macdonald*, of the Senate. The practical Farmer, aided by the scientific Agriculturist.

By *C. W. Lynde*, of the Senate. Agriculture and Horticulture—One the stock, the other the blossom, may they succor each other—and their fruits will be abundant, provided there is no nullifying weed suffered to flourish in their midst.

By *Alexander Walsh*. Horticulture—The art by which nature is taught to improve her own productions.

By *John W. Wyman*. The Gardener—Let him be proud of his employment—the only one designated for man, by the Almighty himself.

By *Daniel E. Delavan*. The memory of Linnæus—Much as we owe of pleasure to his perseverance and industry in bringing the science of Botany to its present state of perfection, to gratify the eye and the palate, let us not forget that he aimed at a still higher motive—the ennobling of the faculties, and the refinement of the heart.

By Mr. *Livingston*. The Hudson and Delaware Canal.

By *Alexander Hamilton*. A repeal of the duties on coal, and a reduction of canal tolls.

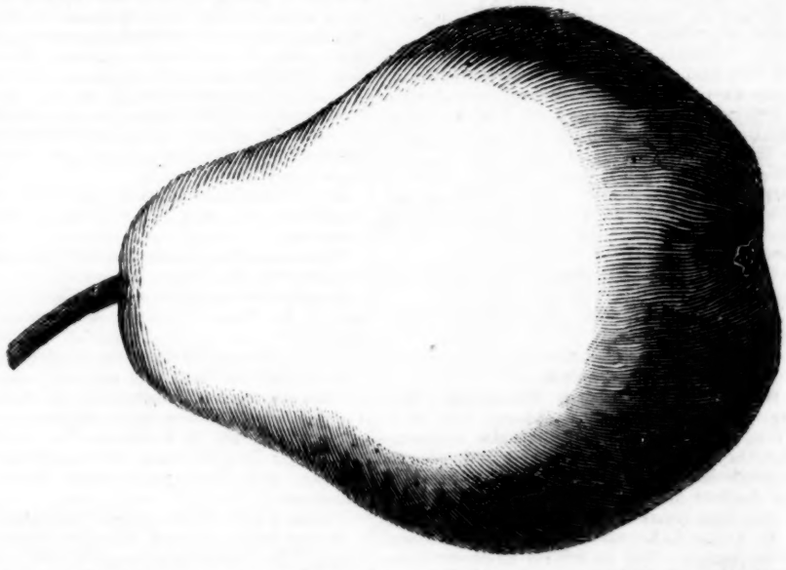
By Mr. *G. Davis*. Horticulture, the most rational employment of man—*our earthly paradise*: may we eye with caution the forbidden fruit.

By Mr. *Price*. The Vice President of the United States—An indigenous plant will survive the shock of transplantation.

By *D. K. Minor*. The Boston Horticultural Society—Solicitous alike for the *repose of the dead*, as for the refinement and happiness of the living: may this Society speedily imitate their example, in providing a RURAL CEMETERY.

On rising from the table, the excellent music and most splendid fire-works, which immediately succeeded, added to the scenery and taste, for which Mr. Niblo's Garden is distinguished, produced the most enlivening and pleasing sensations.

The Bon Chretien Pear, presented by Mr. Wade, three of which weighed 2 lbs. 3 ozs., was raised by *William Stiles, Esq.* of Springfield, N. J. from a tree imported a few years since from France—a description of which, with an engraving, we subjoin.



With regard to the origin of the "Bon Chretien" Pear, (see engraving above,) I am unable to furnish any particulars, other than that the tree which produced the fruit exhibited on the occasion of the late Anniversary of our Society was imported from France, by Mr. William Shaw, of this city, in the spring of 1828.

It was taken to New-Jersey, by Mr. Stiles, in the month of April, of that year, and was transplanted in merely a *good strong soil*, which was then, and has since been, under annual cultivation for potatoes, melons, &c. Its treatment has been, I believe, in no respect peculiar. The tree produced the last year some twenty or thirty pears, and the present season upwards of one hundred, most of which were equal, in size and appearance, to those presented to the Society, and amounting probably to 100 lbs. of fruit. It may be added, as an extraordinary circumstance, that the average diameter of the pears was quite as great as that of the body of the tree on which they grew—being about 3¼ inches.

The catalogues of several of the extensive gardeners in our vicinity enumerate the "Bon Chretien" among the extensive varieties of our pears; but whether they are the same as that exhibited I have no means of determining,

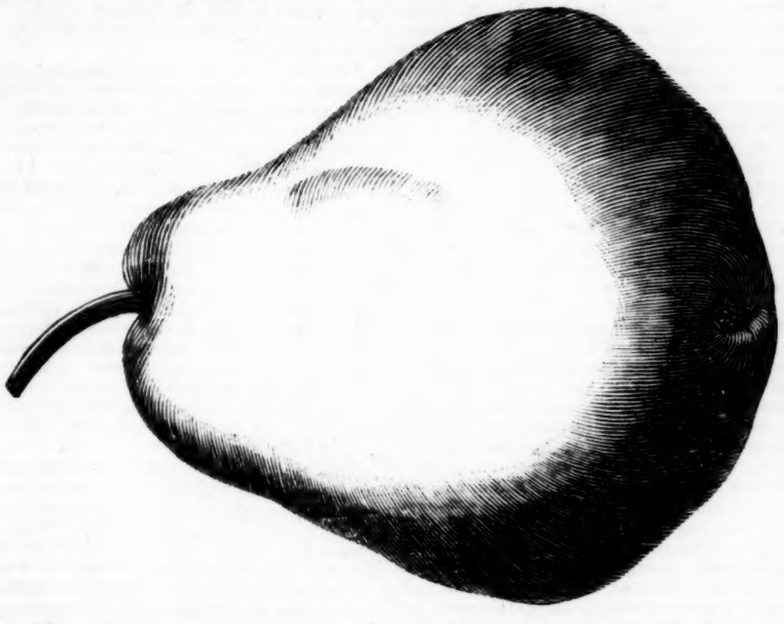
though such is probably the fact. In this case it is to be regretted that the merits of the fruit have not been more generally known; for it is believed, had the public been aware of its superiority, our private collections and market-gardens would not, at this time, have been destitute of so desirable an addition to our stock.

W.

[In Mr. Prince's Treatise will be found a description of the Bon Chretien.—Ed.]

The *Duchess d'Angouleme Pear*, of which the following is a description, with an engraving, is from the garden of Madame Parmentier, near Brooklyn. It grew, with many others of very nearly equal size, upon a small tree, not exceeding eight feet in heighth. It was taken from the tree before it was fairly ripe, and kept several days, when it became mellow, juicy, and of a highly delicious flavor.

Duchess d'Angouleme Pear.—The shape of the fruit resembles that of the Doyenne pear, but is larger, yellowish, dotted with gray and brown, on the sunny side of the fruit; melting, highly flavored, and juicy; the taste resembles that of the Crassane pear, but is much finer. It ripens in September and in the commencement of October. The tree grows very rapidly, and is a great bearer.



List of articles presented to the Inspecting Committee of the New-York Horticultural Society, at Combault's Hotel, 599 Broadway, during the months of August and September:

August 7th. Charles Oakley, Esq. presented nine Bloodgood's Washington Plums, six weighed 10¼ oz.; four Freestone Nectarines, raised under glass, very fine; two Freestone Peaches, raised under glass, very fine; two Real Bolmar Plums, very fine, weighing 4 oz. 5 dwts. 8 grs.

August 14th. Charles Oakley Esq.—Three Bolmar Plums, weighing 6¼ oz.; six Nectarines, 10¼ oz.; six Magnum Bonum Plums, 14 oz.; six Dennison's Gage, 10¼ oz.; six Flushing do., 10 oz.; six Bloodgood do. 10 oz.; six Fine do. (from an old tree,) 9¼ oz.

E. Wade, Jr. Esq.—Eighteen Bolmar Plums, six of which weighed 12 oz.; six Queen Claude Plums, weighing 9¼ oz.

J. Brown, Jr., Esq.—A handsome Bouquet of Flowers.

Mr. J. L. F. Duflon.—A plate of fine Cornelian Cherries.

August 21st. J. Foulkes, Esq.—A fine specimen of Yucca aloifolia, in flower; Salvia splendens, and a seedling Dahlia.

Mrs. Jones.—Four heads of Celery, weighing 9 lbs. 14 oz.

Mr. Wm. Reid.—Six Dahlias, very fine.

N. G. Carnes, Esq.—Amaryllis purpurea; Begonia evansiana; Asclepias currisavica; Hibiscus rosasinensis; Heliotropium peruvianum; Ageratum mexicanum; Verbena chamadræfolia; Plumbago capensis; Pelargonium rubescens and russellianum; a French Rose; and some seedling Dahlias.

John Groshon, Esq.—Hemerocallis japonica.

Mrs. Parmentier.—The three following varieties of Pears, viz. Belle de Bonne; Bartlett; and Beauty of Brussells.

Mr. Michael Floy.—The following Dahlias, viz: Miller's Eloise, Bartlett's Susannah, Pulla, Coronation, Crimson Globe, Foster's Incomparable, Splendida, Miller's Anna Boleyn; Plants, Purpurea perfecta, Sir John Copley, and Magnificans.

August 28th. Mr. Wm. Neale presented Foster's Constantia, Crimson Globe, and Colvill's perfecta Dahlias; also, Delphinium grandiflorum and sinensis; Belle de Monza Rose; and Dracocephalum virginicum.

R. Dyson, Esq.—Twelve Red Roman Nectarines, six of which weighed 12¼ oz.

September 3d. Mr. Wm. Reid presented the following Dahlias, viz.: Magnet, Crimson Globe, Foster's Constantia, Star of Brunswick, Theodore, Queen of Wirtemberg, Miss Pelham; Plants, Purpurea perfecta, Colvill's perfecta and Dennisii.

Charles Oakley, Esq.—Twelve Golden Nectarines, from the open air, six of which weighed 21 oz.

Mr. Wm. Neale.—Countess of Liverpool, Foster's Constantia, and Crimson Globe Dahlias; Noisette Roses and other Flowers.

Mr. Thomas Hogg.—The following Dahlias, viz.: Splendida, Man of Kent, Scarlet Turban, Theodore, Countess Devon, Hogg's Perfecta, Crimson Globe, Atrosanguinea, General Washington, Fitch's Scarlet, Trafalgar, and Augustus Cesar.

E. Wade, Jr., Esq.— Williams' Bon Chretien Pear, very large and fine.

September 17th. R. Dyson, Esq.—Twelve Golden Nectarines, weighing 37¼ oz.

Wm. R. Cook, Esq.—Dennisii and Wells' Triumph Royal Dahlias; Campanata uranica, Cacalia coccinea, and other Flowers.

J. K. Hamilton, Esq.—Salphiglossis atropurpurea.

Messrs. Wm. R. Prince and Sons.—The following Dahlias: Diademe d'Or, Sussex Maid, Young's Pilot, Prince's Transcendant, Well's Amanda, Lord John Russell, Levick's Incomparable, Douglass' Decora, Lutea purpurea, Stephenia, New Crimson Globe, Black Prince, Vulcan, Fielder's Queen of the Yellows, Hyanea, Lady Fitzharris, Wells' Queen Adelaide, Aurantia Magnifica, General Lafayette, Mundula, Grantchester Nonpareil, Negritiana, Plant's Purpurea perfecta, King of the Whites, Henry the VIII, Groombridge's Matchless, Nymphæflora, Widnall's Queen of Roses, Young's Magnificent, Lady Arden, Veitche's Adelaide, Striata.

September 24th. Mr. Thomas Hogg presented the following Dahlias, viz.: La Brilliante, Blood Red Globe, Cesalpinus, Tall Irish, Hogg's Invincible, Trafalgar, Theodore, Man of Kent, Lord Polwarth, Scarlet Turban, Genl. Santa Anna, Hogg's Perfecta, Hogg's Atrosanguinea, Floribunda, Painted Lady, A La Mode, General Washington, Douglass' Blush, President, Princess Augusta, Crimson Globe, Miller's Defiance, and Miss Ellen; also, a fine specimen of Tuberose, and a plant of Tecoma capensis in flower.

J. K. Hamilton, Esq —A very fine bunch of the Black Cape Grape.

Charles Oakley, Esq.—A plate of Prune Plum.

Mr. Thomas Dunlap.—The following Dahlias, viz.: La Brilliante, Magnet, Excellent Rose, Miller's Surpasse, Triumph Royal, Aurantia, King of the Yellows, Barrett's Susannah, Donna Maria, Calypso, Duchess of Kent, Lady Grenville, Foster's Constantia, Achilles, Saul, Large Rose, Sulphurea superba, Colville's Perfecta, Daphne, Princess Augusta, Vulcan, Theodore, Lady Banks, Maculatum, Coccinea speciosissima, Foster's Incomparable, and thirteen fine double seedlings; also, two beautiful Bouquets, consisting of Dahlias, China Asters, Eupatorium, Dracocephalum, Tuberoses, and other flowers.

Messrs. G. Thorburn & Son.—The following Dahlias, viz.: Russell's Maculatum, Wells' Queen Adelaide, Juliet, Hall's Palmyra, Atropurpurea speciosa, Squibb's Yellow, Foster's Incomparable, Widnall's Queen of Roses, Landgravine, Albina, Anna Boleyn, Lady Grenville, Amanda, Hall's Fiery Meteor, Queen of Wirtemberg, Pieta, Floribunda, Star of Sussex, Scarlet Donna Maria, Sir John Copley, Countess of Liverpool, Hall's Mogul, Colvill's Perfecta, Queen of the Yellows, Henry VIII, Purpurea perfecta, King of the Whites, Miss Pelham, Romulus, Lord John Russel, Pink Globe, Triumph Royal, and two seedlings.

Norton's Seedling Grape.—Dr. Norton, of Virginia, obtained this grape from the seed of the Bland, fructified with the pollen of the Meunier or Miller's Burgundy. It has acquired much reputation in Virginia. See Prince on the Vine, page 186.

Cotton Seed Oil.—A writer in the Southern Banner, after speaking of a greatly improved machine for hulling the seed, invented by L. Johnson, Esq. of Madison, Ga., thus estimates, rather highly, the benefits of cotton seed oil:

It remains to show the immense advantage which is in store for this country, from this at present unimproved resource. The cotton crop of Georgia, for instance, is 250,000 bales, which, at the usual price obtained, is equal to 6,000,000 dollars. In the seed this crop weighs three hundred millions, and takes about 600,000 acres to produce it. The fibres when taken off, being one-fourth of the weight, leave two hundred and twenty-five millions of pounds of seed, which, at thirty weight to the bushel, leaves in bushels, 7,500,000. From this quantity subtract one million and a half, necessary to plant 600,000 acres, and there will then be a balance of six millions, equal to three millions of gallons of oil, or three millions of dollars, half the value of the cotton crop—one which is such a vast source of wealth to the people of Georgia. This is exclusive too of the cake, worth seven hundred and fifty thousand dollars more.

Crops in Onondaga County.—A correspondent of Goodsell's Genesee Farmer, under date of August, states Indian corn to be a failure; barley barely a medium crop; peas abundant, and free from insects; oats abundant; grass a heavy burden. He thus speaks of wheat:

The crop of *wheat* is most abundant, and the grain is of an excellent quality. Fifteen years ago wheat in this county was considered as of secondary importance: and it was even doubted by many whether we should ever be able to compete with the more western counties in the production of this valuable grain. These doubts are dispelled—an improved system of farming, which may in part be traced to the state and county agricultural societies, but more perhaps to the plaster and clover method of cultivation, has fully proved that much of the soil of Onondaga, for the production of wheat, is equal to any in the State or Union. Farmers, with comparatively small means, now can raise a thousand bushels in a year, and to this fact may be attributed the rapid decrease of debt among the cultivators of the soil, and their visible advance in wealth and prosperity. It is strange that a county, where lime and gypsum are found in every section, and in such quantities, should have been deemed unsuited to the raising of that kind of grain to which in fact the first is indispensable, and the second a most valuable accessory. Yet such was long the opinion of many, and it was strenuously maintained, that from grass, and not from grain, the wealth of this county must spring. In no former year has the quantity of wheat grown equalled that of the present, and extensive preparations are made and making for the next.

LIME.—The effects of this manure is not as apparent in producing luxuriance of growth as plaster, and barn yard manures, yet its utility to the soil is by no means to be dispensed with. A farmer of Pennsylvania writes in the Genesee Farmer: "We have found it necessary to apply quick lime to our grounds, at periods of from six to nine years, to keep it fertile, and the herbage sweet and wholesome, both for pasture and fodder. We might almost as well abandon the plough as the use of lime in our soil."

NEW-YORK AND BERGEN DAIRY COMPANY.—[On the supposition that each family in this city consumes one quart of milk per day, there will be required to supply them 2,737,500 gallons in a year. At 20 cents per gallon the quantity amounts to $547,500. One quart per day is not a large estimate, when we consider the great number of boarding, victualling, and public houses. Allowing each cow to give 350 gallons in a year, 7821 cows will be wanted to supply the city. This number is, we should judge, greater than what actually exists. If so, the deficiency must be made by diluting the milk. This view of the subject, in connection with the superiority of milk from cows pastured, together with the fact that pasture ground in the vicinity of the city is encroached upon for the purposes of buildings and gardens, leads us to look favorably on the following undertaking.—ED. N. Y. F.]

The Directors of the New-York and Bergen Dairy Company, in submitting to the citizens of New-York a copy of their charter, together with a report on the adaptation of the Meadows, procured for the purposes of the Dairy, deem it but justice to themselves to state, that their object is not, by bringing down the milk, to conquer opposition, but simply to supply a pure unadulterated beverage, such as shall at once benefit the citizens, and yield an adequate return upon the labor and capital employed in the business. They, therefore, conceive, that four cents per quart to stock-holders, and five cents to others, will be a fair remuneration: their fixed principle being not to *undersell*, but to compete only in regard to *quality*, and dispose of at a moderate price.

In no article of food is cleanliness so essentially necessary as in the management of milk; nor, it is believed, may be tainted more easily by any other liquid, either by mixture, by contact with foreign substances, or by impure air; hence the necessity of minute attention to cleanliness, which shall be the groundwork of the most rigid observance on the part of the managers of the company; and in the firm conviction that this useful institution will meet with well-merited support, the Directors now solicit public patronage. To whom they submit their terms as follows, viz.:

To each share, where the holder becomes a customer, and shall so elect, will be allowed, in lieu of all other dividends, a yearly dividend of twenty-five gallons of milk; and where the quantity, daily furnished, shall exceed in the aggregate that quantity per share, at the expiration of every quarter, four cents a quart shall be charged for the surplus.

This dividend in milk shall continue for five years, at the expiration of which period, unless this privilege is extended by the company, it shall cease, and the stock, thereafter, shall be entitled to the same cash dividends as the other stock of the company.

Instalments to be paid as follows: five dollars per share, at the time of subscribing, and monthly payments of five dollars on each share, on the first of the four succeeding months, when the amount of each share (twenty-five dollars) will be complete.

Subscriptions for the remainder of the shares will be received at the office of either of the Directors, and by the Secretary to the Company, Thomas F. Walker, 225 Thompson street.

By order of the Board of Directors,

CHARLES KINSEY, President.

New-York, June, 1833.

[Here follows the Act of Incorporation, which we omit for want of room.]

Report of Committee.—The Subscribers, at the request of the Directors of the New-York and Bergen Dairy Company, have accompanied Robert Swartwout, in an examination of the Newark Meadows, with the view of ascertaining their present situation, and fitness for the purposes of the Dairy, and beg leave to report,

That, in 1813 and 1814, the Messrs. Swartwouts purchased the Newark Meadows, and in 1815 commenced the work of their improvement. They were then in a dreary, sunken, and desolate situation, subject to the inundation of every tide from the river, and totally destitute of cultivation. Few, or no attempts had been made in this section of the Union to reclaim marshes of any extent.

The former proprietors of these meadows, however, under every discouraging circumstance calculated to defeat a great undertaking in its incipient stage, commenced their operations and succeeded as far as individual enterprise and capital would permit. They enclosed more than three thousand acres, making an embankment of eleven miles in length, sixteen feet wide at its base, and five feet high; one thousand acres they ditched and drained, making a length of ditch of seventy miles and upwards, (the tract now offered to the New-York and Bergen Dairy Company.) By these facts it will be perceived that a great portion of these meadows is already reclaimed, and we may also add, that a part of them has been cultivated, and large quantities of hay taken from them, and brought to the New-York market.

The advantages to be derived from this great internal improvement are manifold and palpable. The value of the soil increases in proportion to the density of population. Lands in the vicinity of large cities, capable of producing the means of subsistence, must always be enhanced in their worth as the wants of the community are multiplied. No city in the Union unites so many advantages for a vast and active population, as the city of New-York; and commanding, as she does, the commerce of that immense country on the lakes of the West and the North, and being the great emporium of trade and exchange between the interior and distant quarters of the globe, the fertile and productive lands in her vicinity, which are comparatively limited, and of narrow extent, must be called into rigid requisition. While population continues to augment, their value will continue to be advanced.

The nature and advantages to accrue from the cultivation of these meadows require but a brief enumeration. Every article of vegetable consumption to be found in the New-York markets can be produced from them in abundance. The basis of their soil is a rich deep loam, whose fertility has been continually increased by alluvial deposits from the river, and by vegetable decay.

The surface of the ground, consisting of a texture of grass and other roots, has become decomposed, and a soil of inexhaustible strength is fit for immediate cultivation. For grazing, reclaimed marshes are unexcelled in every part of the globe.

A few years ago the Corporation of the city of New-York were invited to take an interest in the undertaking, by way of loan to the proprietors, but the financial concerns of the Corporation were inauspicious to the application. Yet the Board were not blind to the value and resource of these lands. We take the following extract from the Report on this subject:

"It is well known," says the Report, "that the quantity of fertile land in the immediate vicinity of the city is remarkably small—our markets are supplied with vegetables almost wholly from the west end of Long Island, and from a very few spots on the Jersey shore, and our hay is principally brought from a distance. Few cattle are fatted for our consumption, except in distant pastures. The milk, too, which is used in the city, is produced by cows kept in the city itself, or its suburbs, or else within a very limited tract, in the neighborhood. It, therefore, requires no arguments to show that a considerable increase of land, united to all these purposes, would be an acquisition of great public importance. More gardens would lower the price of vegetables: more meadows would diminish the price of hay; a large addition to the pastures within the circle of a few miles would reduce the expense of milk: nor could this fail to have a beneficial effect on our meat market.

"Within a few miles of this city, there exists a marsh of immense magnitude—yielding, in some parts, a coarse hay of inferior quality and value: and in others nothing but rushes and other useless plants. The Messrs. Swartwouts have proved, by actual experiment, that the whole of this marsh may be converted into a fertile soil, at once valuable to the proprietor, and beneficial to the inhabitants of the city. But this successful experiment has been made at the expense of great anxiety, and a large fortune." After indulging in other remarks of a similar nature, the Report concludes as follows: "Resolved, that this Board consider the undertaking of the Messrs. John, Robert and Samuel Swartwout, to drain the marshes in the neighborhood of this city, as one of public utility, and feel an interest in its success, but that, at present, it is not expedient to comply with the prayer of the Memorial."

This testimony, so clear, so strong, and so conclusive, bears the signature, of a committee, appointed on behalf of the Corporation to view the premises, including the names of Peter Augustus Jay, Stephen Allen, John Hone, John Morss, Judah Hammond, and Jacob B. Taylor.

The inducements here set forth are sufficient to convince any candid mind—and conclusively demonstrate, that the cultivation of these meadows will not only open a source of comfort to our city, but a source of wealth and profit to those whose enterprise leads them to participate in their improvement.

How can the success of such a work be denied when the most invincible proofs are before us? Why have rich and abundant crops been gathered from the reclaimed parts of these meadows, if the scheme of their improvement is visionary? Why have the finest harvests of grain, why have hundreds of tons of hay, been taken from them and brought to New-York, if they are to be forever barren and useless? To those who are prone to condemn projects intimately interwoven with the prosperity of the whole community, without having a single reason to assign for their premature condemnation, without turning an eye or a thought on the proofs that irresistibly enforce a different conviction when duly weighed—we would urge but one remark: *let such persons go and examine for themselves.*

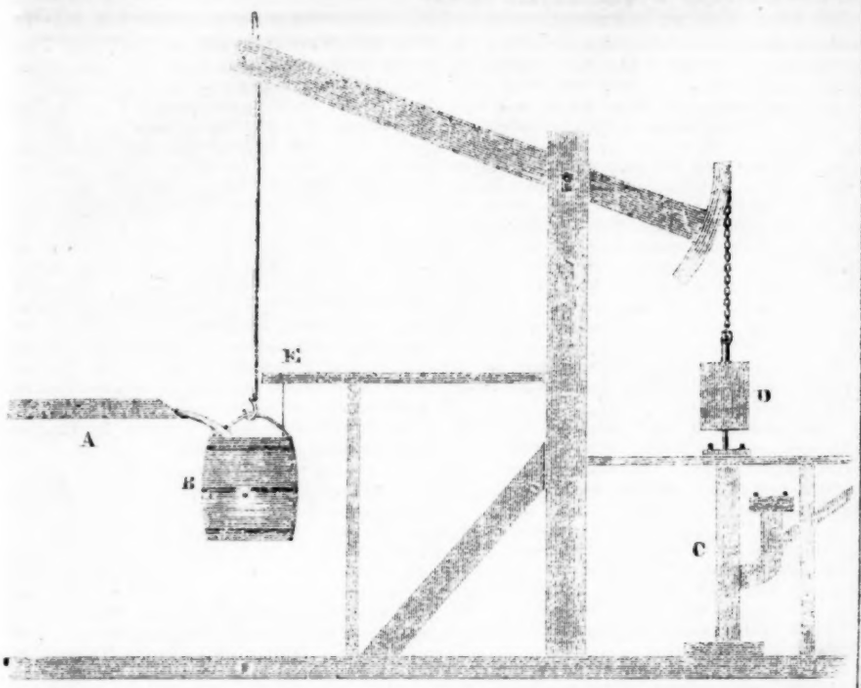
With these preliminary observations and statements the subscribers will conclude their Report, by stating that they have made a diligent and thorough examination of the tract of meadows lying north of the Newark and Belville roads, and bounded by those roads, and Saw Mill Creek and the Hackensack River, said to contain about a thousand acres. This tract is embanked, ditched, sluiced and drained, and requires but a trifling expenditure to put into complete order.

They, therefore, recommend its purchase by the company as a part of the landed estate, on which to establish a dairy, and that it be put under immediate improvement for that purpose.

All of which is respectfully submitted.

PETER TOWNSEND,
DANL. HOLSMAN.
HECTOR CRAIG.

New-York, 23d April, 1833.



IRRIGATION.—The watering of kitchen gardens is common to all countries, and has been probably used in all ages. It is generally effected in the most expensive manner; a common watering pot is used by the hand, and the water carried to the garden in small quantities, and often from a considerable distance. Yet it is a fact, that no acre of land belonging to a farm yields so great a net profit as the acre employed as a kitchen garden. The farmers of Gloucestershire, in England, commence making cheese a month earlier than their neighbors, and this only because they flood their lands in winter, and thus the roots of the grass are preserved from being injured by the frost, and an early spring of grass secured. The expense of this irrigation, in many instances, exceeds twenty dollars an acre. The grand canal, now in this State, will give many opportunities of irrigating land; it might be the interest of the State to introduce large supplies of water into the canal, with a view to sell the spare water to farmers owning land within two miles of it, for it would not be too expensive to lead it so far wherever no great impediment intervened. A farmer, who owned fifteen acres of land near the grand canal in Ireland, caused his field to be made into ridges, 60 feet wide, each ridge rising gradually to the top, on which he made a small canal, about one foot wide and one foot deep, these being supplied at pleasure from the canal, and by its overflowing watered the ridge on each side, and was carried off through small runners between the ridges—this was very expensive, but was yet very profitable to the owner of the land. It appears from a communication to the Board of Agriculture, that a Mr. Purdy, of Norfolk, watered his meadows at the expense of thirty pounds sterling ($133 33) per acre, and found it to his advantage; he was offered and refused five guineas ($23 34), as an annual rent for his grass lands.

Much benefit has been derived from the ingenuity of mechanics and others, in making labor-saving machines. In what respect could genius be so usefully applied as in suggesting cheap modes of supplying water to farms? The following plan and description of a machine for raising water, is copied from the *Domestic Encyclopædia*. It is not expensive, and is given partly with a view to engage *American genius* in the invention of some plan still cheaper, for *cheapness is particularly material to the farmer*.

"In the year 1801, the Society for the Encouragement of Arts, &c. adjudged their silver medal to Mr. H. Sargeant, of White-Haven, Cumberland, for a *machine for raising water*, of which we give an engraving.

"This engine was erected at Irton-Hall, which is situated on an ascent of sixty or sixty-one feet perpendicular height. At the foot of this elevation, about one hundred and forty yards distant from the offices, there runs a small stream of water: and, in order to procure a constant supply of that necessary fluid, the object was to raise such stream to the house, for culinary and domestic uses. With this view a dam was formed, at a short distance above the current, so as to cause a fall of about four feet; the water was then conducted through a wooden trough, into which a piece of leaden pipe, two inches in diameter, was inserted, and part of which is delineated at A.

"The stream of this pipe is directed in such a manner as to run into the bucket B, when the latter is elevated; but as soon as it begins to descend, the stream passes over it, and flows progressively, to supply the wooden trough or well, at the foot of which stands the forcing-pump C, being three inches in diameter.

"D is an iron cylinder, attached to the pump-rod, which passes through it; such cylinder is filled with lead, and weighs about two hundred and forty pounds.* This power works the pump, and forces the water to ascend to the house, through a pipe, one inch in diameter, and which is four hundred and twenty feet in length.

"At E is fixed a cord, which, when the bucket approaches to within four or five inches of its lowest projection, extends, and opens a valve in the bottom of the vessel, through which the water is discharged.

"The machine here described had, at the time of Mr. Sargeant's communication to the Society above mentioned, been six months in use, and fully answered the purpose for which it was designed. The artizans employed were a plumber, blacksmith, and carpenter; the whole expense, exclusive of the pump and pipes, did not exceed five pounds ($22 23)."

* The farmer, who looks more to real use than to neatness of execution, may make the cylinder of wood, and fill it with stones, bricks, or other convenient matter.

THE POPULATION OF THE UNITED STATES.—The Boston Journal has some interesting suggestions on this subject, derived from the last Quarterly Register.

The greatest population to a square mile is in the District of Columbia, where it is 393; in Connecticut, 63; in Rhode Island, 72; Massachusetts, 81; Maryland and New-Jersey, 40; Ohio, 24; New-York, 41; Pennsylvania, 30.

The population of New-York in 1840, it is supposed, will be 2,500,000, or 200,000 more than that of all New-England, and about equal to that of all the North-Western Territories. That of Pennsylvania is rated at 1,700,000; of Ohio, 1,300,000. That of Virginia is put at a few thousand more. And thus the oldest settled of the States, which in 1790 had a population of 747,000, will have been overtaken by a State which had no government of any kind until one year before that date, did not become a State until 1802, and had in 1790 a population of only 3000. Indeed, Ohio has the resources within itself for growing into the greatest State of the Union. It can support, without difficulty, a people as dense as that of Holland.

Ohio contains but 39,000 square miles, while Virginia contains 64,000, which is within 1000 of the whole area of New-England, and makes Virginia the largest as well as the oldest State. The next in order is Georgia 62,000, and Missouri 60,000. Illinois contains 55,000, Florida 50,000, New-York 46,000, Pennsylvania 44,000, North Carolina and Louisiana 48,000 each. Delaware contains 5100, and Rhode Island 1350.

The most rapid increase of population we observe is in the case of Ohio, which increased from 3000 to 45,000 in ten years, and in the next ten to 230,000. This last was at the rate of 409 per cent. in ten years, whereas the average rate of the whole Union for the last 10 has been but 33 per cent. and that of New-England but a little less than 19. That of New-York was never greater than 72; of Maine, 58; Illinois, 350; Indiana, 500; Michigan, 764; Arkansas, 1344. The most rapid increase has, of course, been in the early settlements.

The population of the United States in 1480 is rated at 17 millions. What it will be a hundred years hence, it is not easy to calculate. What it *may* be, however, is inferible from the fact that our territory is immensely extensive; that a vast amount of rich land is yet unoccupied; that lands now cultivated may be made vastly more productive; that a large portion of our country is under tropical climates; and that if the whole country should support but 230 inhabitants to a square mile, as England now does, we should have, as the editor of the Register observes, more than *four hundred and fifty millions*.

A BAT USEFULLY EMPLOYED.—The common house-fly had become extremely numerous in the kitchen of a friend of ours, from which detachments passed into other parts of the house, to the great annoyance of his family. An attempt to drown many hundreds of them in soap suds was successfully made; but this was only a slight subtraction from the main body, which received daily accessions from abroad. The other day, on going into the kitchen, he observed that most of the flies had disappeared, and inquired of the girl if she knew the cause? She replied that two or three nights before she had *shut in* a bat, when she closed the doors and windows; and saw that the flies were much thinner next morning. The bat has not since been seen, though he probably hides there in some hole or dark corner, for the flies are evidently on the decrease.

We would not give an undue importance to trifles, but some may think with Uncle Toby, that a release from the teasing of a fly is worth an effort; and should any, in consequence of this notice, wish to try the experiment, we would suggest that, after dark, the door or windows of the apartment should be left open with only a *dim light* burning. A dark corner might also be provided for his retreat in the day time. Bats are so common in summer, that we expect that one or two might be obtained in this way, at almost every farmer's house.—[Genesee Farmer.]

EXHIBITION OF EXOTIC PLANTS AT THE EXPERIMENTAL GARDEN AT EDINBURGH.—[We are indebted to the Messrs. Thorburn, for the Scotsman of June 8th. Our readers will perceive that all classes of people take a deep interest in viewing and patronizing floral exhibitions.]

The annual exhibition of exotic plants took place at the Horticultural Society's Garden, Inverleith, on Thursday last; and both as to the rank and number of the visitors, and the variety and splendor of the floral specimens, this botanic *fete* far exceeded any thing of the kind ever witnessed in the neighborhood of Edinburgh. The exhibition was announced to open at two o'clock, and close at five, and the promptness with which the fashionable world arrived on the promenade, showed the lively interest which is now attached to the delightful and instructive science of botany. The forenoon was somewhat cloudy, and a slight shower fell just as the gardens were opened, but the delightful fragrance it exhaled from the flowers more than counterbalanced the little annoyance it caused to the fair visitors. The company continued to arrive till three o'clock, at which time it was calculated that there were upwards of 2000 ladies and gentlemen upon the grounds. The number of carriages present exceeded all precedent, and lined each side of the road from Mr. Inglis' shop, on the north side of Canonmills Bridge, to the end of Inverleith Row.

Among the company present were—the Countess and Countess Dowager of Caithness, the Countess of Hopetoun, Lady Torphichen, Lady Charlotte Hope, Lady Dick Lauder, Lady Wellwood Moncrieff, Lady Clerk of Penicuick, Lady Hope of Pinkie, Lady R. Ker, Lady Sinclair of Ulbster, Lady Hussey, Lady Jardine, the Hon. Mrs. Leslie Cumming, Hon. Mrs. Strange, Hon. Miss Rollo, Mrs. Hamilton Dundas, Mrs. Boyle, Mrs. Maconochi of Meadowbank, Mrs. H. Cockburn, Mrs. Borthwick of Crookston and Miss Borthwick, Mrs. Falconar of Carlowrie, and Miss Falconar, Mrs. Keay of Snaigo, &c. &c. &c. Lord Torphichen, the Hon. Charles Hope, Sir Alexander Muir Mackenzie of Delvine, Sir John Sinclair of Ulbster, Sir George Clerk of Penicuick, Sir John Hope of Pinkie, Sir T. Dick Lauder, Sir John Hay, advocate, Sir James Grant, M. D. Sir Henry Jardine, Sir Patrick Walker, the Lord Justice Clerk, Lord Meadowbank, Lord Mackenzie, Lord Medwyn, Lord Moncrieff. A great number of professors, clergymen of law courts, &c. &c. Several of the officers of the 6th dragoons and 82d foot were also present.

A large stage was erected in front of the hothouses, which was completely filled with the most splendid specimens of rare exotics, the whole being covered with an awning for their protection, and the supporting pillars richly festooned with flowers and evergreens. The plants exhibited were of the most rare and beautiful descriptions, and seemed in form and color as if nature had actually retouched her loveliest works in order to attain the full beauty of perfection. Immediately opposite the large stand were exhibited the competition flowers. The band of the Enniskillen Dragoons and that of the 82d regiment attended, and enlivened the scene by playing some of their finest pieces, while the company, though mostly concentrated in the vicinity of the awning, availed themselves occasionally of the privilege of the whole extent of the garden walks. The Experimental Grounds, under the able superintendance of Mr. Barnet, are kept in the highest order and neatness of arrangement for scientific purposes, every plant being labelled to guide the students, and the winding walks and variety of plants and flowers forming a view of the most enchanting description. The gay assemblage seemed much delighted with every part of the exhibition, and from the admirable arrangements of Mr. Neill and the other gentlemen, to whom the management was entrusted, the whole went off with excellent spirit. Nor should we forget to mention a new feature in this year's exhibition, which could scarcely be reckoned out of place in an *Experimental* Garden—we mean a table set out at a proper distance from the exhibition, well stocked with ices, pastry, soda water, and other refreshments, for the company. The refections were furnished by Mr. Francis Davidson, 47 Frederick street, at the shop prices, and many hundreds, who had fatigued themselves with pure *joyaunce*, partook of Mr. Davidson's refreshments, and blessed the arrangement which brought him thither. The tables, in addition to the viands, were decorated with a very ingenious model-work, representing some of the scenes of Captain Parry and our gallant countrymen in the frozen regions, and also an artificial water-fall, which was a very pretty piece of mechanism.

The collection of plants exhibited was more extensive and varied than on any former occasion. The committee of judges met at eleven o'clock, and after a careful inspection, the following prizes were awarded:

1. For the six finest shrubby plants (Ardisia crenulata, in flower and fruit, Callicoma serratifolia, Erica ovata, a very large specimen more than six feet high, Erythrina laurifolia, Fuchsia globosa, and Grevillea acanthifolia,) to Mr. William Brackenridge, gardener to Mr. Neill, at Canonmills.

2. For the six finest herbaceous exotic plants (Alstroemeria pelegrina, Gloxina speciosa and alba, Cactus speciosissimus, Verbena venosa, and Nierembergia phœnicea, all of them admirable specimens,) to Mr. John Macnoughton, gardener to John Wauchope, Esq. of Edmonstone.

3. For the prize offered for the twelve finest Tulips, three competitors appeared, all of them exhibiting beautiful flowers. The committee thought it proper, in this case, to award two prizes; the first was adjudged to William Pattison, Esq. Willimsfield, and the second to Mr. Pringle, Manor Place.

4. For the prize offered for the best Double Ranunculuses, three competitors also appeared, and the committee, finding considerable difficulty, determined in this case also to award two prizes. The first was voted to Mr. William Cuthbertson, gardener to James Balfour, Esq. of Pilrig, and the second to Thomas Oliver, Esq. Burntsfield Links.

A very excellent collection of shrubby plants in flower having been sent to the meeting from the seat of Count Flahault, Tulliallan, an extra prize was voted to Mr. John Gow, gardener there: and another extra prize was awarded to Mr. Alexander Forrester, gardener to David Falconar, Esq. of Carlowrie, for an extensive collection of the genera Iris and Paeonia in flower.

Collections of Calceolarias were furnished by several cultivators, to the extent of 120 pots. Notwithstanding this rich display, it was singular that there was in reality no competition, the principal contributors (Messrs. Dickson and Sons, Inverleith, and Messrs. Dickson and Co. Leith Walk,) having sent their plants for exhibition only.

GARDENS AND HONEY AT SYRACUSE.—The following is an extract of a letter from an American gentleman in Sicily, published in the Journal of Commerce:

"We next entered the Marquis of Casal's garden. It contains several acres, but it is subterranean, like that of the genii in the tale of Aladdin. It is an excavation, and the smooth rocky walls rise around it, between 100 and 200 feet high. The oranges, citrons, and lemons, are the largest in Sicily: they are delicious, and there is a great variety of flowering plants. The imagination can hardly conceive a more delightful place. Another similar garden is attached to the Capuchin Convent. The walls were shaped into form with vast labor, and some pillars of rock were left standing in the middle. There are many caverns, but the open spaces are cultivated as a garden. The approach is over a large rock, when you come suddenly upon a garden yellow with golden fruits, sunk deep in the earth. On a shelf in the rock are fifty swarms of bees, that gather a honey little less fragrant than that of Hybla. Let me tell you in a parenthesis, lest I forget it elsewhere, that I have been to Hybla itself, where I obtained a hundred pounds of that honey, so renowned in poetry. It is above all honey in taste, and it has the fragrance of flowers. You shall taste it, for there is no more to be had at Hybla. Strange it is that while Sicily has had so many different populations, the Greek, the Roman, the Saracen, the Norman, and a mixture of them all, that, if the ancient dead could revive, they would hardly know their country: yet the same bees continue to make the same honey, and have the same flowers that were gathered by Proserpine, or sung by Theocritus."

AGRICULTURE IN OHIO.—It will be observed by every intelligent farmer who travels through the Western country, that we have not yet attained a very great degree of perfection in the arts of agriculture. It is but a short period since our whole State was covered with a dense and almost impenetrable forest. The farmers are, therefore, mostly new, and the soil very productive. But it will be observed, that those which have been used for several years begin to show evident signs of degeneration.

The farmer of the eastern and middle States, who has, from neglect or mismanagement, or other causes, suffered his soil to become exhausted and worn out, and therefore incapable of yielding an adequate support for his family, finds a refuge in Ohio, where the land is new, fertile, and cheap. Here several years are lost in clearing away the trees and preparing a small cabin or "log-house," for the accommodation of his family. He then adopts his old system of farming, and the result is that his new and rich land soon becomes old and worn out. In a very few years he begins again to think of moving to the *new country*, and in Indiana he goes through a similar routine, and with a similar result. There are many exceptions to the above remarks in all parts of the State; and it would be an unpardonable neglect not to state that there are many agriculturists in Ohio who conduct their operations on the most correct principles. There is another motive which induces many of the citizens of this state to emigrate to the *new country*. They were among the first settlers of the country, and like our great pioneer, Daniel Boon, have formed such an attachment to the hunter's life, that they really look upon the rapid settlement of the state with much regret—because it destroys the game!

The first great defect in the management of Farms in the West, which will strike every one, is the *almost total neglect of manure*. "When my land needs manure," says one, "I will sell it, and remove to the new country;" and it appears to be the general impression that it is better to clear new land than to cart manure on to that which is old. Every barn yard is covered with manure to the depth, in many cases, of five or six feet, preventing the free use of the building, which is sometimes removed on this account. There are some farms along the bottom of the larger streams, which are annually overflown with water. This occasions a thin deposite of rich alluvial soil, and renders manure unnecessary. There are fields along the *Scoth bottoms* which have produced crops of Indian corn for thirty years in succession, without, in any sensible degree, diminishing the value of the soil. But when this is attempted on land differently situated, the effect is soon discovered.

Another very important defect, is the *want of a proper rotation of crops*. Nothing of this kind is to be seen, except the alternation of wheat and corn. No clover, buckwheat, or other ameliorating crop, is introduced to restore to the soil that nourishment which is

taken from it by the wheat and corn. Wheat is frequently sown in the fall before the corn is removed from the fields.

The bad consequence of this system will be felt not only by the present occupiers of the soil, but also by many future generations. It is an evil which every true friend to his country should endeavor to prevent.

At the request of a subscriber we insert the following article, first published in the Manlius Repository. It is from a practical breeder of horses, and should command attention:

IMPROVED STOCK—*Horses.*—Mr. Miller: Although it is now late in the season, I beg leave, in addition to my article on the subject of horned cattle, to offer to my neighbors a few suggestions in relation to horses.

The horse is an animal of incalculable importance to us. His intrinsic value consists in his power, speed, and endurance; and as he is, to a great extent, the subject of taste and fancy, his highest value is attained when he unites beauty of form with these three requisites. But every farmer knows he is not to expect pears from the thorn bush, nor figs from the thistle. He is not to expect a pippin from the bramble-bush, nor the greening from the wild Indian crab-apple. But then these stocks will sustain the pippin and the greening, if such scions are introduced. Since, then, the same expense of care, culture, feed and time, is needed to sustain and rear a four year old horse worth $60 and one worth $100, it is really astonishing that farmers, who spare no pains to procure the best quality of seed for grains, grass and roots, should still employ, as sires, the low-bred dunghill, worth $2,50, instead of the brave and noble blood-horse, worth $20. The result, in such case, as a general rule, must necessarily be, the colt will be a twenty shilling colt, instead of a twenty dollar colt, if nature proves true to her principles.

The farmer does not reflect sufficiently, nor judge correctly, on this subject. He seems to think a half-blood sire, derived from a blood horse and common dam, may produce as fine stock as the full blood horse himself; whereas, he cannot, half so good. Being only a half blood himself, he can infuse into his progeny only one fourth of the good qualities of his sire. His stock is only quarter bloods. No farmer, desirous of making the greatest gain in perfecting his stock, will use any horse as a sire who cannot claim to inherit in the line of his dam, as well as of his sire, power, speed, and endurance, the three items which give value to the horse. Hence it is that the pedigree of our blood horses is given in the line of the dam, instead of the sire. It is to show, that the valuable blood of the horse, derived from his sire, is not reduced and depreciated by any impure, low blood, derived from the mother. A little reflection, therefore, will satisfy the farmer not to breed from a horse, (although his sire may have been good,) in the hope or expectation of greatly improving or perfecting his stock, if he cannot, at the same time, claim excellence and value, also, from the blood of his dam. In this respect old Eclipse excels any horse of the present day; and to this source, does he owe, in a good degree, his matchless powers. His dam was got by Messenger, whose stock, for power and endurance, equals, if not excels that of any horse ever brought to this country. Her dam, by a son of English Eclipse, next to Childers, the fleetest horse ever known. His sire, Duroc, was by Diomed, the best horse of his day—deriving his excellence from judicious crosses, blending the best strains of English and Arabian blood. It is perfectly idle for a farmer, who has a mare of good size, and of fine quality and blood, to raise a colt from a common horse, worth only $65 to $80 at four years old; when he can, with the same labor, and expense of feed and care, raise one worth $120 to $150, by resorting to a better sire, at a cost of $5, $6, or $8 more. And even if his mare is in some respects inferior, he should still resort to horses of high and celebrated blood, of large size, just proportions and fine speed—horses superior in those very particulars in which his mare is deficient. A half blood filley from such a cross would probably make, hereafter, a stock mare, that might always produce colts worth $100, if sired by horses of the best size, best forms and best blood. In this way, the farmer who is unable or unwilling to be at the expense of purchasing a costly mare to commence with, is to obtain valuable brood mares hereafter.

Every farmer ought to have one or two good brood mares. We have the experience and testimony of intelligent men, that brood mares may be steadily and safely used until within a few days of foaling; and very soon after. They should not be improperly used and abused, by extreme, sudden, violent efforts. But it will not injure them, nor their foals, to do constant reasonable labor. In addition, therefore, to accomplishing the ordinary labor of a span of horses on the farm, they may produce the farmer annually a span of colts. It ought here to be remarked that much of the value of our colts depends on the care and keeping we give them. We err much on this point. Colts generally are neglected the first winter. Their growth is retarded, and their forms are injured thereby. They should be kept in the best manner the first year; should be kept constantly thriving. Their forms will then be properly sustained, and their points and proportions be finely developed—nor should they be fed on the ground, but in racks so posited as to require them to extend and elevate the neck and head.

Dutchess county has derived a great revenue for many years, from the annual sale of her valuable horses. Spans of horses, bred there, have been sold in New-York, at from $500 to $1,000; and multitudes of single horses from fifty to one hundred pounds. They secured these results by improving their stock of brood mares, in the use of such imported horses as Messenger, Highlander, Paymaster, Drone, Badajazette, and others—not hesitating to pay $20 or $25 to horses of such blood. The consequence has been, their brood mares were so much improved in quality, as to produce, when blended with sires of this character, a stock of horses for market worth from $100 to $250 each.

I have said a horse, for a sire, was valuable as he possessed size, power, speed and endurance. As "like produces like," he is expected to impart these properties to his progeny. To decide whether he has power, speed and endurance, he is put to trial on the race course. In a greater or less degree, his courage, resolution, temper, and constitution, are imparted to his stock. The farmer, who would make gain by breeding colts, should look to these things. His colts will always sell if they have size and speed, even if less perfect and beautiful in form. By blending the Arabian blood with that of the English race horse, the product is considered as perfected.

It unites to the size and bone of the English race horse, the round, smooth, beautiful form of the Arabian, together with his hardiness, fleetness, and ability to endure fatigue. By such crosses the fleetest and best horses have been produced, that have been ever known. Sires of fine size, and of such quality and blood, are here offered to the farmer at the present day. But they are neglected by most breeders on account of price, and a resort is had to the low-bred horse, because of his reduced terms. While such is the fact, we can never perfect our stock of horses. While such is the practice, this splendid section of country, which ought to be first and foremost, will ever, in this respect, be second to Long Island and Dutchess. Our object should be to obtain in the shortest possible time a race of brood mares that can produce sixty pound colts, instead of $60 colts. This can be speedily done, by a resort to high bred horses, of the Eclipse, Messenger, and Diomed blood. But it cannot be done by low bred horses, who have no blood on the side of the dam, and who are removed to the third and fourth and fifth cross from the pure blood sire.

It will be recollected, there are two purposes for which we rear colts. One is for the plough, and one for the road. For the plough, stout, heavy, compact built horses are needed, with no special regard to fleetness. For the road, as for stages, pleasure carriages, and the saddle, in addition to size, power, and form, high courage, and fleetness or speed, are indispensable. If the farmer, therefore, designs to rear a colt for market, he must resort to a sire either celebrated himself, or in the line of his immediate ancestry, for fine action, and great speed as roadsters, in the hope that he will impart these properties to the stock. If for the plough, he will look for a sire possessing a kind, docile, gentle temper, of good size, large bone, and great muscular powers. As the stock will be, in a great measure, characterized by the sire, the farmer will look for such qualities in the sire as are especially adapted to the uses and purposes he has in view. If these few hints should influence the farmer to reflect on this subject, and be the means of inducing correct impressions, my purpose will have been answered. A FARMER.

Pompey, July 20, 1833.

PRUSSIAN BLUE ON WOOLLENS.—It has gone the round of our papers, several times within the last two years, that a mode of dying blue without indigo was in use on the continent of Europe. This color is merely the application of Prussian blue to yarn and cloth, and has been used very commonly on cotton and silk goods, in this country, for the last five years. The blue produced in this way for the last year, in this country, has probably been equal to that which could be obtained from two hundred chests of Bengal Indigo. Its application to cotton and silk goods has been generally known for some years; but it is only very recently that it has been successfully used on woollen fabrics, owing to the great difficulty in fixing it evenly on the goods. This difficulty has been lately overcome, and I hasten to make it known to the workmen of this country. My instructions may be incomplete, as is almost ever the case with a new discovery, but it will, no doubt, be sufficient to lead our artists to the source of successful application.

Woollen goods of all kinds have to be prepared by boiling them slowly in lime water. After cleaning them by washing, they are entered into a fresh liquor, containing one ounce of prussiate potash, to each pound of goods. In this they are boiled slowly for ten minutes. They are now to be run through another fresh liquor, containing one ounce of nitrate of iron to each pound of goods, if for a middling blue; but if for a dark blue, more nitrate of iron will have to be used. The color is now on the goods; but it is neither as bright or as even as is required. To improve the color so as to make it light and even, it has to be run through a liquor containing a small portion of sal-enixen, argol, and muriatic acid.

This color is brighter than any indigo blue, and will stand air and acids equally well; but is easily changed by the application of alkalies, on which account it is not commonly employed on such goods as require to be frequently washed with soap. For carpet yarn, horse cloths, flannels, and many other descriptions of goods, it may be used to advantage. It has been applied in England to broad-cloths, and when the color changes in fulling with soap, it is afterwards revived again by a mordant.

For further particulars apply to Wm. Patridge, 64 Cedar street, New-York.

LARGE PLUMS.—We received from our friend Sanford Hunt, P. M. at Hunt's Hollow, Allegany county, six Plums, equal in size to any we have ever seen. One of them measured 7½ inches in circumference; and the six weigh seventeen ounces. They were of the variety known as the *White Magnum Bonum*, or Egg Plum.—[Gen. Farmer.]

SILK.—*Newcum against Preble County!*—Mrs. Alred, of Newcum, has, the present season, with the aid of one small girl and two boys about twelve years old, fed and attended about 50,000 silk worms with the leaves of the common wild mulberry. From her labors, she will realize about two hundred and twenty-five dollars, even should she sell the material in a raw state. But should she manufacture the cocoons into sewing silk, which she does with ease and facility, the product of her labors will amount to near *four hundred dollars!*

The silk she manufactures is equal for strength and evenness to any foreign silk. Farmers who can command some twenty or thirty mulberry trees will find it a pleasant and profitable employment for some of their daughters. The necessary labors are simple and easily attended to. ECONOMY.

N. B.—Mrs. Alred has some three or four hundred thousand eggs of the silk worm at 75 cents per thousand, with directions for growing them.—[Eaton Reg.]

LOSS IN FATTENING OXEN.—For the benefit of others, who are as ignorant of the comparative value of cattle, before and after being fatted, as I was until I tried the experiment, I am constrained to offer to you for publication this communication. My experiment was made with a yoke of large oxen, and commenced November 1st, ultimo, when they were in good working condition. I will put down what I believe to have been their value at that time, - - - - - - - - $75,00
They were fed 180 bsh. potatoes, at 20c. 36,00
" 10 " corn, at 62½ cts. 6,25
90 days fodder and labor of feeding at 12½c. 11,25

Estimated cost $128,50
They weighed about 2000 lbs. for which I received 5 cents - - - 100,00

Making a loss of $28,50

Although the oxen were large framed, they were not of a kind to fatten easily.

The above is not offered for publication but with a sincere desire that it may warn others from my error.

Note.—I am inclined to believe that farmers do not pay sufficient attention, in their selection of working oxen, to their fattening qualities. While oxen intended for the yoke command the same high price which they do at present, it seems quite important that they should possess properties fitting them for the stall as well as the yoke, in order that we may derive the greatest profit from them.—[Genesee Farmer.]

PICKLES.—Happening in at the house of a gentleman a few months since, he remarked that he had adopted a new method of preserving cucumbers, or making pickles, and as proof of its excellence, produced some prepared according to his system. As it was new to me, it may possibly be so to some of the readers of the Farmer. Take of common sour cider, such as cider drinkers usually denominate hard, a quantity sufficient to cover the cucumbers intended to pickle, and put it into a vessel proper for the purpose. Gather your cucumbers when of the right size, without scratching or bruising them—rub or wash them clean, and put them in the cider—stir them occasionally, and if a scum rises, let it be taken off, and they will gradually become pickles of the first quality, green, hard, and of fine appearance. Peppers, and other condiments, may be added as required. I cannot vouch for the invariable success of this mode, but in the hands of my friend I know it operated admirably, and the expense and trouble are so small, compared with some other methods, that it is well worthy a trial.—[Genesee Farmer.]

IMPROVEMENT OF CANDLES.—I steep the common wick in lime water, in which I have dissolved a considerable quantity of saltpetre. By this means I secure a purer flame and a superior light; a more perfect combustion is insured; snuffing is rendered nearly as superfluous as in wax candles, and the candles thus treated do not *run*. The wicks must be thoroughly dry before tallow is put to them.—[Farmer's Reporter.]

LABELS FOR PLANTS.—Various plans are made use of for fixing the names to different plants; but I think none will be found cheaper and more readily obtained than the following, which may be made of waste pieces of tin plate. The polish of the tin may be taken off, by applying a weak acid, as cream of tartar, or an apple cut in two, and rubbed upon it. Then with a common pen and ink write the name; the ink will sink into the pores of the metal; afterwards run over the writing a little boiled linseed oil, which will prevent its being defaced. If the name is ever required to be taken out again, it may speedily be done, by plunging the label into a strong acid, which will clean off both the ink and oil. The labels may be clipped to any pattern, and stuck upon a stick, or hung upon the side of the pot.—[London Hor. Register.]

A SWINE'S ATTACHMENT TO ITS BIRTH-PLACE.—Mr. Goodsell: I sent a short article to the New-York Farmer on the instinct of Swine.

I referred to the *forcible return* of a sow (which I had sold to my neighbor) to litter near her own birth-place, and where she had littered before. I will add the following remarkable fact.

After littering, the sow and pigs were driven to the premises of my neighbor, the purchaser. But it was with great difficulty that she could be kept from the lot which was her birth-place at this critical period; though she had been kept on my neighbor's premises, and much better fed there than I fed her, for about nine months. She was continually seen looking wistfully towards her birth-place, and seeking every means for conveying her family back. Her pigs being too young for the journey she often came alone, and slept whole nights in a shed on the premises, and seemed to return to her pigs "as if under the sense of duty, but with a heavy heart." She moaned (as far as a hog can moan) and grieved, and pined away by degrees, under the best of care, and without any apparent disease.

At last she crept into a shed on the premises, on the last night of her life, and died in the morning, without returning to visit her pigs in her usual manner. If a hog can die of a broken heart this was surely a case.

Since this occurrence I have been told by several farmers that this is not an uncommon case, and that a sow must be indulged at and after her littering period, or she will thus pine away and die, or suffer much in health in most cases. AMOS EATON.

Troy, N. Y. August 15, 1833.

DREDGING MACHINE.—We recently had the pleasure of witnessing the operation of a newly invented and highly improved Dredging Machine, employed upon the canal to remove deposits of mud under water. It is the invention of our townsman, Capt. O. Teall, who has been 4 or 5 years in bringing it to its present state of perfection. The Machine is attached to a common scow, and is worked by one span of horses. Its merits have been fully tested, we understand, by the Superintendants of Repairs upon the whole line of the canal, and is confidently recommended by them all to the use of the State. It is peculiarly adapted to the purpose of clearing the bed of the canal, subject to the consequences of sudden freshets on the Mohawk, where heretofore it has been necessary to draw off the water to remove impediments. Where we saw it in operation, as much mud was removed by it in an hour and an half, with the water at full height, as would have cost $25 by the ordinary method. We understand that the inventor is confident that it is adapted to the removal of the obstructions in the Hudson river, below Albany, where he intends to make a trial with it. We should judge that it must eventually come into use on canals generally. —[Onondaga Standard.]

DISEASE IN HORSES, CATTLE, &c.—A disease very destructive to horses, cattle, and hogs, is now prevailing in the lower part of Baton Rouge and the adjoining parish of Livingston. It first appears by swelling, which is not confined to any particular part, but generally under the joints of the head and neck, and between the fore legs. In many cases the animal dies as soon as the swelling appears. Some live twenty-four hours longer, and some have been cured by the use of medicines, the first application of which was made even after one day from the first attack. We have not heard a name for the disease. The swelled parts on being opened, before or after the animal is dead, discharge a slimy, yellowish fluid. In some cases the discharge is white. The only remedies we have heard of being used are bleeding, calomel, and after calomel, active purgatives. Horses are first bled to the quantity of a gallon, or a gallon and a half; about an ounce of calomel, mixed with bread or any other convenient article to form a bolus, is next administered, and after a lapse of two or three hours, some active purgatives are given. The animal is said to be out of danger as soon as the bowels are loosened. We have not heard of any mode of treatment for either cattle or hogs. Some cattle on being opened were found to have the gall bladder very much enlarged.

Several farmers have lost all their horses; some as many as six or eight. It is the opinion of some that the hogs take the disease from feeding on cattle that have died of it.

The above we have learned from persons who have lost stock by the disease. We would be obliged if any of our friends would furnish us with something in detail in relation to the disease and the best mode of treating it.—[Louisiana Register.]

MANURE FROM CASTOR BEANS.—Dr. T. G. Peachy, of Williamsburgh, carries on the manufacture of oil from the castor bean (*Palma christi*), which is raised for sale on many farms hereabout, and is cultivated still more extensively lower down the country. The "bean-pomace," or the solid parts of the beans, remaining after the expression of the oil by a powerful hydraulic press, has been found to be one of the richest of manures. Dr. P. applies only fifty bushels to the acre, which he thinks insures to him twenty bushels of wheat (in good seasons) from the poorest land of his farm, which, without the manure, would not bring more than five bushels. Its effects, however, are soon at an end, and are not expected to last longer than on a single crop. But clover sowed on the wheat so manured is found to "stick well," which ought to show those who use this manure how to prolong its short-lived effects. Dr. P. applies to his land all the bean-pomace yielded by his press, and would not sell it at twenty-five cents the bushel, as he considers its use worth more. It could formerly be bought at the oil works at Hampton and Norfolk, at five cents the bushel, then at ten cents, and now not at any price, all being engaged by contracts. Mr. D. Galt, (who, though a new comer to Williamsburg, and a novice in farming, has already made great improvements and profits on his newly purchased land, by marl and other manures,) brings from Norfolk to this place all the bean-pomace which a manufactory of castor oil there yields. It is a pity that those who can obtain this very rich manure do not always use it on marled land, and sow clover afterwards. Even of those who use marl largely and value it highly, there are few who will attend to its quality of fixing putrescent manures—and by that neglect, fail to profit by its most important benefit.

The use of bean manure must necessarily be confined to a small space, on account of the limited supply. But I am induced to believe that the experience of the introducers of this manure will prove valuable to the very extensive district in which cotton is cultivated and

the seeds used as manure. If cotton seeds were mashed, instead of being fermented, for manure, as is usual, they probably would be found richer than the pressed beans. The oil alone must be the sole enriching property of both—and the beans, after being pressed with such an enormous force, cannot retain as much oil as the cotton seed have before losing any. I have heard the value of cotton seed estimated as high as twenty-five cents for manure, and wonderful products are stated to have been obtained by using them "in the hill" for corn. But without denying such effects, it is certain that they are not general—and there seems to be as much due to luck as judgment, when this manure is very productive. If the seeds are used without being fermented, they sprout, and I suppose that their oil is thereby changed to something else more fit for food for the young cotton plants, and is lost as manure for the soil. The plants so produced are *weeds* to the crop intended to be manured, and as troublesome to destroy, as they are useless if left to remain. To avoid this, the seeds are usually exposed in heaps to the weather, and pass through a violent fermentation, which destroys the power of germination, and leaves the mass a rich manure certainly—but much less so than the oil alone would have been without fermentation. I am ignorant as to what are the chemical changes thus produced—but doubtless they are considerable, and destructive of much value in a mass so rich in oil, and so putrescent. When at Mr. Hankins' farm, I saw preparations to grind cotton seed in a common apple mill, to be used for manure.—[Farmers' Register.]

Fallen Fruit.—Be very careful to gather all punctured or decaying fruits, whether on your trees or on the ground, and give them to your hogs. If you do not, the worms which they contain, and which have been the cause of their premature decay, will make their escape into the ground, and you will find the evils which await their visitations will increase upon you another season.—[Genesee Farmer.]

Economy in Fire Wood.—The size into which wood should be split, so as to be durable in burning, and yet give sufficient heat, is a matter worthy of some consideration. If split very small, any given quantity will give more heat for a while, but will be quickly consumed; if large, it will consume slowly, but will burn less readily, and give much less heat. A fire composed of billets of wood not more than fourteen inches long, will give more than two-thirds as much heat as that made of wood double that length. Perhaps billets of from three to four inches, of a medium diameter, will be found the most economical, as avoiding the two extremes.—[American Farmer.]

Caution to Fruit Eaters.—The mischiefs arising from the custom with many people of swallowing the stones of fruit are very great. In the Philosophical Transactions, No. 282, there is an account of a woman who suffered violent pains in her bowels for thirty years, returning once in a month, or less, owing to a plum stone which had lodged. There is also an account of a man, who, dying of an incurable colic which had tormented him many years, and baffled the effects of medicine, was opened after his death, and in his bowels was found the cause of his distemper, which was a ball composed of hard and tough matter, resembling a stone, being six inches in circumference when measured, and weighing an ounce and a half; in the centre of this there was found the stone of a common plum. These instances sufficiently prove the folly of that common saying, that the stones of fruits are not unwholesome. Cherry-stones, swallowed in great quantities, have occasioned the death of many people; and there have been instances even of the seeds of strawberries, and the kernels of nuts, collected in a lump in the bowels, and causing violent disorders, which could never be cured till they were carried off.—[Genesee Farmer.]

Fall Sowing of Seeds.—It is necessary to observe, that some, and even many things, which are usually sown in the spring, would be better *sown in the fall;* and, especially when we consider how little time there is for doing all things in the spring. Parsnips, carrots, beets, onions, and many other things, may be safely sown in the fall. The seed will not perish, if covered by the earth.

Seed of all plants will lie safe in this way all the winter, though the frost penetrate to the distance of three feet beneath them, except the seeds of such plants *as a slight frost will cut down.* The seed of kidney beans, for instance, will *rot*, if the ground be not warm enough to bring it up. So will the seed of cucumbers, melons, and Indian corn, unless buried beyond the reach of the influence of the atmosphere. Even early peas would be best sown in the fall, could you have an insurance against *mice.* We all know, what a bustle there is to get *early peas.* If they are sown in the fall, they would start up the moment the frost was out of the ground, and would be ten days earlier in bearing, in spite of every effort made by the spring-sowers to make their peas overtake them. Up on a spot, where I saved peas for seed, last year, some that was left, in a lock of haulm, at the harvesting, and that lay upon the dry ground, till the land was ploughed late in November, came up, in the spring, the moment the frost was out of the ground, and they were in bloom full *fifteen days earlier* than those sown in the same field as early as possible in the spring. Doubtless they would have borne peas fifteen days sooner; but there were but a very few of them, and those stand straggling about; and I was obliged to plough up the ground where they were growing. In some cases it would be a good way to cover the sown ground with *litter*, or with leaves of trees, as soon as the frost has fairly set in; but not before, for if you do it before, the seed may vegetate, and then may be killed by the frost. One object of this fall sowing is to get the work done ready for spring; for, at that season, you have so many things to do at once! Besides, you cannot sow the instant the frost breaks up; for the ground is wet and clammy, unfit to be dug, or touched, or trodden upon. So that here are ten days lost. But the seed which has lain in the ground all winter is ready to start the moment the earth is clear of the winter frost, and it is *up* by the time you can get other seed into the ground in a good state. Fall sowing of seeds to *come up* in the spring is not practised in England, though they are always desirous to get their things early. The reason is, the uncertainty of their winter, which passes, sometimes, with hardly any frost at all; and which, at other times, is severe enough to freeze the Thames over. It is sometimes mild till February, and then severe. Sometimes it begins with severity and ends with mildness. So that, nine times out of ten their seed would come up and the plants would be destroyed before spring. Besides they have *slugs* that come out in mild weather, and eat small plants up in the winter. Other insects and reptiles do the like. From these obstacles the American gardener is free. His winter sets in; and the earth is safely closed up against vegetation till the spring. I am speaking of the north of Virginia, to be sure; but the gardener to the south will adapt the observations to his climate, as far as they relate to it.—[Cobbett's American Gardener.]

Dutch Butter.—The superior quality of the Dutch butter may probably proceed, in part at least, from the soil and climate, and partly from the breed of cows; but most of all, from the careful and cleanly manner in which all the operations of the dairy, regarding butter in particular, are conducted in that country. The soil, in all parts of Holland, is favorable to the growth of meadow grasses. And though much of the soil is too deep, yet it is also rich; and being impregnated with salt, with which the herbage is also tinged, the cows eat a large quantity of the salted herbage with impunity, and which, no doubt, enriches the quality of the milk. The climate, too, is favorable to the growth and health of cows. It has been found, from experience, that when cows are fed upon good natural herbage, the butter is richer, and has a finer flavor, than when the same cows are fed on clover, turnips, and artificial grasses. The cows in Holland give a greater quantity of butter in proportion to the quantity of milk.

The cows of the improved dairy breed in this country, that are fed on artificial herbage, give more milk and less butter, than the same do when cows are fed on natural pastures. All cows that are in good condition always give richer milk than the same cows when they are lean.

The superior quality of the butter proceeds more from the cleanly and careful manner in which it is manufactured than any other cause. The milk, when drawn from the cows, if butter is to be made, is poured into earthenware, or wooden dishes, to cool, in a well-aired milk house, for twelve, eighteen, or twenty-four hours. The cream is either floated over the sides of the coolers, or taken off with a skimming-dish and stored in a jar, till as much is collected as may be convenient to be churned at one time. And to prevent decomposition of the cream, it is stirred about once or twice every day with a wooden spattle. The cream is churned in an upright churn, the staff of which is moved by a gin, turned by a horse. Two hours are generally allowed for the churning process. When the cream is too cold, it is warmed by throwing some hot water into the churn, to bring it to about 70 or 75 degrees of temperature of Fahrenheit's scale. The butter, when taken out of the churn, is placed in cold water, and the milk is carefully washed out of it by kneading it with the hand or skimming-dish, in renewed changes of water. The butter is then salted with the finest salt, which requires to be minutely mixed with the butter. —[London Quarterly Journal of Agriculture.]

Burdock Roots for Hogs.—We were told the other day by a friend, that the roots of the common burdock are eaten with great avidity by hogs.

He states that he has put an ear of corn by the side of one of these roots, and the hogs seized upon the root first, and would not touch the corn until the root was entirely devoured. If all hogs are as fond of it as were these, this troublesome plant will gain in reputation.

It already has much honor in the domestic practice; its leaves being excellent in some cases of sickness, and its seed digested in gin is a good remedy in rheumatism. Its burrs are famous for getting into the wool of sheep, and making the good housewife scold when she manufactures it.

Hogs are also very fond of the common knot-grass, (Polygonum aviculare,) which grows about neglected places, door yards, &c. and it would be well to grub it up, and put it to a good use, by converting it to pork.—[Maine Farmer.]

THE FARMER.

Of all pursuits by man invented,
The ploughman is the best contented,
His calling's good, his profits high,
And on his labor all rely.
Mechanics all by him are fed—
Of him the merchants seek their bread;
His hands give meat to every thing,
Up from the beggar to the king,
The milk and honey, corn and wheat,
Are by his labors made complete.
Our clothes from him must first arise,
To deck the fop, to dress the wise:
We then by vote may justly state
The ploughman ranks among the great.
More independent than them all,
That dwell upon this earthly ball.
All hail, ye farmers, young and old!
Push on your plough with courage bold;
Your wealth arises from your clod,
Your independence from your God.
If then the plough supports the nation,
And men of rank in every station,
Let kings to farmers make a bow,
And every man procure a plough.

Method of Attracting and Destroying Rats and Mice.

Mr. Broad, a farmer at Truxton, Herefordshire, long sustained a reputation for the destruction of these pests. The following extract of a letter from T. A. Knight, Esq. to the Rev. J. Duncomb, affords an instance of Mr. B.'s success:

"Five box traps, nearly of the ordinary construction being set, were examined by me about two o'clock, and the five traps contained fifteen rats. These were taken out, and the traps in succession set again; and as soon as I had seen the rats killed, I returned again to the traps, when I found the falling doors of all down, and seven rats enclosed. Upon these being taken away, the traps were set again, and within less than twenty minutes nine more rats were taken; when the traps were removed to be baited again. During the succeeding 36 hours, the rats continued to enter the traps, though more slowly; and upon Saturday morning 59 rats had been taken. Mr. Broad then returned home, leaving the traps properly baited, and informing me that he believed the extensive drains about my house and buildings still contained ten or a dozen rats, which would come to the traps: and, within the succeeding twenty-four hours, eight more rats, making in the whole 67, were taken. Subsequently not a single rat has been seen or heard about my house; and all my people agree with me in thinking, that not one remains alive here. Some of those destroyed were young; but much the greater part were very large and well fed, and apparently very old."

Mr. B. supposes the annual value of the wheat and oat crops of Great Britain to be 25 millions sterling—that at least one fiftieth part to be destroyed by rats and mice, amounting to £500,000, or nearly two millions and a half dollars. The advantages, therefore, of any method to extirpate these pests, must be great.

Mr. B. having at last published his secret, we have abridged his account as contained in the Edinburgh Farmer's Magazine.

"The size most approved of by Mr. Broad, is two feet long, eight inches wide, and nine inches deep, inside measure. In each door there is a grate made of iron wire; this grate should be four inches wide; it is intended to attract the rats when taken to the light, and prevent their injuring other parts of the trap with their teeth. The bridge upon which the rats tread, to occasion the falling of the doors, should be made of tin, or very thin iron plate, about six inches wide, and four broad, so as to extend nearly across the inside of the trap. And the neck of the bridge should be made of a light slender bar of iron, about two and a half inches long, so as to extend about two-thirds of an inch beyond the external surface of the side of the trap, for the purpose of setting it. A thin plate of iron or tin should be nailed upon the inside of the aperture through which the neck of the bridge passes, otherwise the rats will soon spoil the trap by enlarging that passage. The end of the bridge opposite to the neck must be suspended about half an inch from the bottom or floor of the trap, by a single loop of iron wire, attached to a hook fixed in the side of the trap; by which means the bridge, being very loosely suspended, will move with the slightest pressure upon either side of it, and the trap will be made to strike by the weight of a small mouse.

"The trap should be made of elm, birch, or poplar boards, which are without scent. The wood should be well seasoned, otherwise the boards will be subject to warp, and the doors, in consequence, will not fall perfectly.

"Where a number of convenient and proper places for setting the traps can be had, it is advisable to set a considerable number of engines to work at once, so that much destruction may be made in a short time; for it will sometimes require, in taking a hundred rats, more trouble to destroy the last five than the preceding ninety-five. Few situations, however, require more than half a dozen traps.

"The materials for attracting rats, are, 1st, the oil of carraways; and 2d, good pale malt, ground for brewing and not discolored in the drying.

"The proportion of the oil of carraways to the malt, about 1 to 9000.

"Much care must be taken in preparing and setting the traps; and the most trifling deviation from the following instructions will often destroy all chance of success. Be provided with as many trusses of sweet clean straw as you have traps, and take from each truss a small bundle, about as much when compressed in the hands as will be an inch in diameter. Then take a small vial bottle, the neck of which is about one-third of an inch wide, and which contains half an ounce of oil of carraways; invert the bottle upon the palm of your hand, letting no more of its contents escape than that which has adhered to the hand, whilst the bottle has been inverted. Rub your hands then well together, and draw the straw through them, bending it so as to render it soft and flexible. Let it then be placed lengthways in the trap, and laid smoothly and evenly to cover the bridge, and every part of the floor of the trap, regularly. Then take five half-pints of the malt; place it in a large basin; invert the vial of the oil of carraways upon the palm of the hand, and take from it the quantity which adheres as already directed; rub the hands together so as to spread the oil regularly over them; then take up successive portions of the malt in each hand, and subsequently with both hands, rubbing it between them, that every part of it may be equally scented. Much accuracy is here necessary, for if the quantity of the oil of carraways be too great, the rats will not touch the malt till the scent is partly gone off.

"Let about half a pint of the malt be thrown into each trap, by the hand of the person who has prepared it, scattering it rather regularly over every part of the floor. Place the traps then in the situation where they are to remain, and secure the doors from falling, by placing the pin just at the height they are to stand, when the traps are set. Divide each truss of straw into half a dozen parcels, and put a band round each; place two or three of these at each end of every trap, and sprinkle a few loose straws over each, so as in some degree to conceal the traps from the eyes of the rats.

"The following morning the traps may be looked at; and if the rats be in any degree numerous, the whole of the malt will generally be eaten, and the scented straw entirely taken away. These must be then prepared as before, and replaced according to the preceding direction, and the traps and trusses of straw must be left as exactly as possible in the order they were at first, for the rats are suspicious of the least innovation.

"After three portions of the prepared malt, which have been put into the traps, have been eaten in as many successive days, the rats will have acquired sufficient confidence to enter the traps without distrust, and catching them may then commence: but then the traps must be previously baited again, and the straw if wanted be renewed; and every thing must be made to appear, as nearly as possible, in the situation it was before the traps were set. In baiting them, the hand of the person who has been preparing the malt, and which will, of course, be strongly scented, must alone be introduced into the traps.

"The morning is generally the best time to commence catching, as the rats may be most conveniently taken out during the day.

"To take the rats from the traps, a long and rather slender bag, made of some thin material, which will admit a moderate quantity of light, must be provided; and into this the rats will be easily driven from the traps by introducing a slender stick through the wire grate at one end of the trap, and raising the door at the other end, to which the bag is applied. During this, or any other operation, the hand must not, on any account, be introduced into the traps, unless it be previously scented, else no further success must be expected: even the part of the little stick which is introduced through the grate of the door, ought never to be touched with an unprepared hand.

"Particular care must be taken not to hurt the rats in taking them from the traps, for their cries never fail to excite terror and mistrust to all in the vicinity; it will, therefore, be proper to take the rats to some distance to destroy them. The greatest degree of precaution should also be used not to suffer a rat to escape after being taken, for animals have generally powers of conveying their apprehensions of danger to each other.

"The traps will require to have a small quantity of prepared malt thrown into them each day, and it will be necessary to renew the scented straw once in five or six days. It is always advantageous to take out the rats as soon as possible after the rats have struck; and therefore, when the rats are numerous, and have entered the traps freely, it will not be eligible to let them remain set, when they are left for the night.

"Cats and dogs should be prevented from approaching the traps; and no person, except those employed previously in baiting and setting them, should be permitted to touch them; for animals of many kinds probably distinguish individuals of the human species from each other, by their scent and smell.

"The trap to be used for the destruction of mice may be similar in construction to those recommended for rats, but much smaller.—Traps capable of taking many at once, or of perpetual acting, might probably be invented.

"As a bait for the barn and the long tailed field mouse, take about half an ounce of rich cheese, toast it moderately without burning it, and then put upon it with a slender feather, or the point of the finger, a very small quantity of the oil of carraways, one tenth of a grain will be sufficient for each trap. The bait thus prepared should be put upon the bridge of the trap whilst warm, and two small spikes should be there fixed to receive and hold it. When the traps are to be set in the garden, or forcing-house, where the short-tailed field mouse often does much injury, it will be proper to place a piece of carrot under the scented cheese; for this mouse, the only remaining mischievous species, is not fond of

animal substances, though it appears as strongly attracted by the oil of carraways, in combination with its favorite food, as any of its congeners. In buildings of every kind, the trap will succeed best if placed close against a wall, and at a small distance from the passages through which the mice are supposed to enter, as recommended for rats; but it will not be necessary to mask the trap at all, nor to bait it previously to being set.

On the Effects of Terrestrial Radiation on the Processes of Vegetation; and some account of the Chinese Method of propagating Fruit Trees. By J. MURRAY, Esq. [From Loudon's Gardener's Magazine.]

It has been shown that the cooling process of radiation, by which the temperature of the surface of the earth is lowered so considerably, differs materially on the inclination of the hill compared with the bosom of the valley. Mr. Daniell, indeed, states, on one occasion, a difference amounting to 30°: that is to say, the thermometer on the inclined surface maintained a higher temperature by 30° than another placed on the horizontal or level plane of the adjoining valley. This difference is certainly enormous; but it is proved beyond all doubt, that a slope, an inclined plane, for instance, radiates less by many degrees than the surface which is altogether horizontal. Indeed I think we may collect abundant proof of this important fact among the mountains and the valleys of Italy. On the plains of Piedmont, the vines which are suffered to attain a considerable altitude on lofty poles planted as their support, are detached from these poles towards the approach of winter, and prostrated on the earth, where they are secured from injury by the straw. This treatment protects them from the effects of the intense, though short winter, which reigns on the plains of Piedmont; for, even at Turin, the water in my room has been congealed into a solid mass of ice throughout its entire extent. The olive succeeds in Tuscany, but the almond, pomegranate, and plants of the Citrus family, flourish but imperfectly; and yet on the acclivities of the amphitheatre of the Appenines, which forms a semicircle round the magnificent city of Genoa, you find that the pomegranate, the lemon, and the orange, mature their fruit and luxuriate. Even the imperial city is indebted for her palm branches to the palms which succeed in the open air at Nice. Now, the only difference in these circumstances consists in a reduction of the loss sustained by radiation, and the attempered influence of the sea breeze, which more than counterbalance the increase of warmth imparted by the sunbeams to a more southern clime: perhaps even the excellence of Monte Somma wine may have something to do with the acclivity on which the vineyards are planted. To my vision, fruit trees planted on terraces, and rising one above the other, in amphitheatrical form, appear beautiful; but this has become, I suppose unfashionable, because it happens to be a gem from the antique. Now, restlessness in search of something new, however absurd, is incessant. The ancients appear, in this respect, to have known what they were about; and I must frankly confess that, in my estimation, they acted wisely, and had the better of us, and that we are decidedly in the rear. To this cause is attributed the remarkable fertility of the land of Judea in former times. Its susceptibility is sufficiently apparent, and there still remain existing vestiges of this mode of cultivating the banks of the valleys, or the sides of the diversified hills of Palestine, to a considerable altitude. It is still, however, very questionable, whether low walls, constructed of brick, or of stone and mortar, quite vertical, would succeed so well as the surface of a calcareous or sandy soil, at an angle, for example, of 45°. A sandy soil absorbs heat, and continues heated, because sand is an indifferent radiator, and is, moreover, a non-conductor of caloric (heat); so that vines, &c. in contact with such a surface, would be more than compensated for the temperature they would lose through the medium of radiation; which would also be attenuated from the inclination of the plane.

At St. Mary's Isle, the seat of Earl Selkirk, near Kirkcudbright, I remember to have seen a beautiful illustration of my views, in the case of pear trees pinioned to trelliswork on such an inclined surface as I have described; and I have always understood that the crops of fruit which these trees carried were remarkable both for quantity and quality: indeed, it must be apparent that, under such conditions, spring frosts can have little or no influence, because these frosts are entirely connected with the principles of radiation, and have little or nothing to do with the temperature of the atmospheric medium. If the soil is not of a sandy consistence, in that case I would employ a thin stratum of sand. I have in my little garden just such a surface, inclined and sandy, and have planted vines with an intention to train them on the surface, on a frame-work, something like cucumbers or melons in the hot-bed. The vine I am making my experiments with is called Miller's black grape. I have already had ample proof that the healthy luxuriance of other tender plants does not suffer, and that frost has little or no effect on such an exposure.

For the purpose of maturing the fruit, I shall throw a veil of black gauze over the vines; and this will secure me the effects of a powerful absorption of the caloric rays of the sun's beams. Though the radiation from a black surface is proportional to its absorbent capacity, it will operate during the lengthened day (and at this period of the year the night is reduced to its minimum) in the maturation of the fruit, while the sandy surface is retentive, from its non-conducting character. If bunches of grapes on vines exposed *sub dio*, or reared in the open air, be tied up in white bags, they will scarcely ripen, are small, and want flavor; but if other bunches on the same tree be confined in bags of black crape, the contrast is very striking, in the latter being fully ripe, large, and of a flavor equal to those cultivated on a foreign soil. This fact explains the principle on which I would veil my vines with sable weeds; further explanation would, therefore, be superfluous and unnecessary.

Respecting the Chinese method of propagating fruit trees, it is merely requisite to detach a strip, or narrow riband, of bark from the branch or limb which is to be separated. The Chinese apply to this a ball of earth mingled with clay, to impart greater consistency to it, and this is covered with moss, and secured by bandages formed of some pliant material; a small pan, containing water, is suspended over it, and serves to keep the ball moist. This method, as successfully pursued in this country, was first pointed out to me by Sir Lauchlan MacLean, of Sudbury. The Italians often adopt the plan; and I have seen a large orange tree, 14 feet high, loaded with growing fruit, thus separated from the aged parent stock, and exposed for sale in the market at Naples. I have witnessed the plan in full operation near the royal observatory of that city. One obvious advantage is, that no time is lost in the growth of the tree; nay, the very abstraction of the ring of bark from the branch rather expedites than otherwise the evolution of fruit. The Italians have improved on the rude plan of the Chinese, by enclosing in a tin case the stem of the future independent tree: it is filled with earth, pressed down, and covered with moss, which is preserved moist in the way I have already described. This part of it I have improved, by suspending the tin vessel which contains the water on an adjoining branch above the ball, while a woollen thread, previously moist, forms a line of communication, and affords a constant regular supply, on the principle of the syphon, and the capillary attraction of the fibres of the thread. A lid prevents the loss by evaporation from the surface of the water confined in the vessel.

A linear incision in the bark above a bud, it has been stated, will convert that bud into a branch. Last season I tried several experiments of this kind on a fig, cutting out a narrow strip of bark, over the bud, in the form of an inverted V, and succeeded in producing branches in five out of seven instances. The want of success in these two, I suspect, arose from the imperfect separation of the lips of the bark, and insufficient depth of the incision.

I am, sir, yours, &c. J. MURRAY.

Jan. 20, 1833.

FORCING BULBS.—Early in October take your bulbs, as Narcissus, Tulips, Hyacinths, &c. having previously provided a quantity of mould composed of

Two barrowsful of well decomposed hot-bed dung,
One barrowful of fresh loam,
One do. of vegetable or leaf-mould,
One quarter of a barrowful of fine sand.

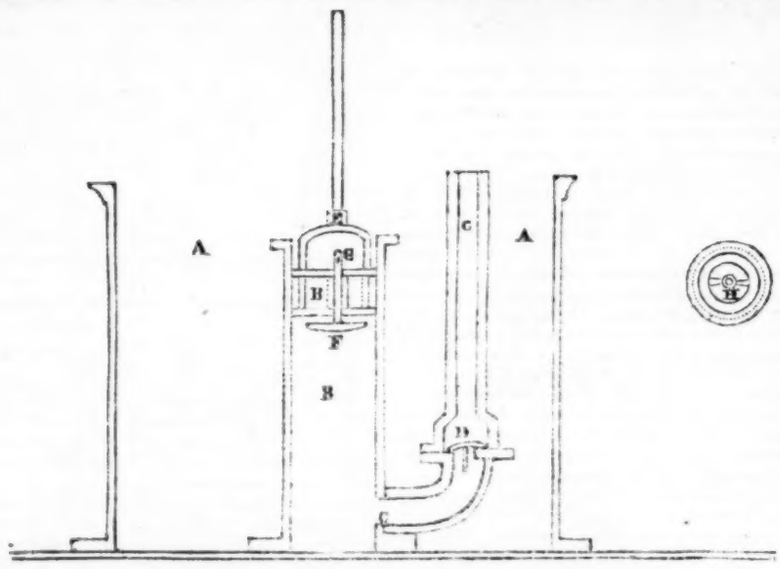
These are to be well chopped and mixed together; then lay the compost in an open shed, to dry a little before using. About the second week in October, put the bulbs in the above soil, in pots proportioned to the size or sort of bulb. Fill all the pots with soil, and shake it down, but do not press it with the hand before commencing to plant the roots; then lay some clear sand on the soil in the middle of the pot, and placing the bulb on the sand, gently press it down till within half an inch of the top. Care must be taken not to press with sufficient violence to injure the bulb, yet it must be left firm in the pot; for on these two things much depends, with regard to their growing freely.

After they are potted, and named or numbered, place them in a cucumber or melon frame, prepared after the following manner: Take out the soil, and lay on the old bed about two inches thick of fine ashes, level and make them pretty solid, on the top of this lay a quantity of sifted ashes, in which plunge the pots, making the ashes as firm about the pots as possible. After this is finished, cover the whole to the depth of eight or ten inches with dry light soil. Always choose a dry day for the purpose, and let every thing be dry that is used about plunging; or the bulbs will be liable to perish. Give air at all times in fine mild weather, but allow no wet or frost to enter the covering soil: at night the lights must always be on, and in severe weather closely covered down with mats; but if the nights are mild the glasses may be tilted, to allow a little air.

In January, take them out of the frame, wash the pots, carry them to the stove for flowering; and give them regularly a moderate supply of water to assist them to flower strong. As the flower stalks advance in growth, tie them to neat green or white sticks: and if treated as above, they will flower beautifully. Crocuses, planted four or five in a pot, flower well when treated as above.—[Hor. Register.]

GREATEST WEIGHT OF POTATOES.—Mr. Lindley draws the following conclusion, and pronounces it to be quite confirmatory of Mr. Knight's statements. "In order to acquire the greatest possible weight of potatoes per acre, it is necessary that large round heavy tubers should be employed, and that the space allowed for the growth of each plant should be as nearly as possible such as it would naturally occupy, if suffered to spread freely on all sides without interruption; that this space will vary according to the habits of particular varieties, and can only be determined by accurate experiments; that too much and too little room are alike injurious to productiveness; and that, finally, it is quite practicable, at least, to double the crops that are usually obtained.

"It cannot be necessary for me," says Mr. Lindley, "after this statement, to make any remarks upon the methods at present in use, of planting sets or fragments, or the smallest tubers, or even, as sometimes in Ireland, parings of the potatoe; the evil consequences of such practices cannot but be apparent to every one."—[Loudon's Magazine.]



Hot Water Pump. By G. M. [From the London Mechanics' Magazine.]

SIR,—I beg the insertion of the annexed plan of a hot water pump:

A A is a square or oblong cistern of cast iron, or any other suitable metal, to contain the pump, but must be deeper than the height of the pump, and be continually kept full of water. B is the barrel of the pump, (I shall not say any thing about the proportions of it,) truly bored, and is to be fixed to the bottom of the cistern. C C is the outlet for the water contained in the pump to the boiler. D is a valve fixed in the elbow of the pipe C C, to stop the water from coming back to the barrel again by the pressure of the steam on it from the boiler. E is a valve or bucket, such as used in other pumps, and to be packed with hemp, or any other suitable packing, in the groove H, made to receive it, with the exception of the spindle valve, F, inverted, and is kept from falling through by a pin placed in the hole G, made in the spindle to receive it. H is a section of the valve E, with a bridge across it to receive the spindle of the valve F.

The action of the pump is as follows: The cistern A A, being full of water, fills the barrel B by running over the top of it. The bucket E, and valve F, being at the top of the barrel B, and ready to be forced down the engine, the water which is between the valve F, and the bottom of the pump, is forced by the action of the bucket E, descending, and valve F closing, through the pipe C; while the valve D, immediately that the bucket has got to the end of its stroke, stops all return of water; then the bucket E is drawn up to the top of the pump, and the water, by its own gravity, fills the pump by the valve F descending as far as the pin; and so the process is repeated.

Your obedient servant, G. M.

P. S.—I am well aware that the pump has the pressure of the air to resist in its upward stroke; but considering the numerous stoppages and delays occasioned by the valves of the pumps now in use, and the uncertainty of their action, I think the pressure of the air in this but a minor consideration when compared with the other.

ON THE STUDY OF WILD NATURE.—To observe *nature*, we must go to the wilds, because in all cultivated productions there are secondary characters produced by the artificial treatment, and we have no means of observing a distinction between these and those which the same individual would have displayed, had it been left to a completely natural state. The longer that the race has been under domestication and culture, the changes are of course the greater. So much is that the case, that in very many, both of the plants and animals that have been in a state of domestication since the earliest times of which we have any record, we know nothing with certainty about the parent races in their wild state. As to the *species*, or, if you will, the *genus*, we can be certain. The domestic horse has not been cultivated out of an animal with cloven hoofs and horns; and the domestic sheep has never been bred out of any of the ox tribe. So also wheat and barley have not been cultivated out of any species of pulse, neither have windsor beans at any time been grasses. But within some such limits as these our certain information lies; and for aught we know, the parent race may, in its wild state, be before our eyes every day, and yet we may not have the means of knowing that it is so. The breeding artificially has been going on for at least three thousand years, with some change at every succession; that, calling the average duration of the domestic animal ten years, and that of the bread-plant one year, is three hundred successions in the one case, and three thousand in the other; and what man is to live, nay, what kingdom is to last, till the experiment is performed as many times, with any thing which is now in a state of nature! Even if we were to suppose that impossibility got the better of, there arises another every way as perplexing. How are we to know what was the first artificial mode of treating any one of those cultivated productions, or what were the effects of it, even at the end of one thousand or of two thousand years? Fashions of cultivation change as much as fashions of any thing else; and as the subject is one in which it is impossible to get accurate information upon, not a few only, but on many points, much of the change must have been theoretical; and, like all theoretical procedure, sometimes an improvement, and sometimes the reverse. But there is another difficulty. What great changes are made on the surface of a country, as when forests are changed into open land, and marshes into corn fields, or any other change that is considerable, the changes of the climate must correspond; and as the wild productions are very much affected by that, they must also undergo changes; and these changes may in time amount to the entire extinction of some of the old tribes, both of plants and of animals, the modification of others to the full extent that the hereditary specific characters admit, and to the introduction of not varieties only, but of species altogether new.

That not only may, but must, have been the case. The productions of soils and climates are as varied as these are; and when a change takes place in either of these, if the living productions cannot alter their habits so as to accommodate themselves to the change, there is no alternative, but they must perish. Also, though we know nothing about the primary germs of plants or of animals, till we find them developed in visible and tangible embryos, we must not make our ignorance the measure of nature's working; for though we have seen them come only in one way, and, generally speaking, perish in another, we are not to suppose that that is all. When forests of one kind of timber are cut down, new plants make their appearance; and there are evidences that races, both of plants and of animals, have perished even in our own country, without any great convulsion of nature, for their remains have been left on the strand and buried by the slow progress of the deposition of the matter washed down by the rains and stayed by the re-action of the waves.

Cultivation itself will deteriorate and in time destroy races, if the same race and the same mode of culture be pursued amid general change. Our own times are times of very rapid change, and, upon the whole, of improvement; we dare not, without the certainty of their falling off, continue the same stock and the same seed-corn, season after season, and age after age, as was done by our forefathers. The general change of the country must have change, and not mere succession, in that which we cultivate; and thus we must cross the breeds of our animals, and remove the seeds and plants of our vegetables from district to district.

There is something of the same kind in human beings, and we have reason to expect that there should; because, in as far as man is material and mortal, he is just as dependent upon circumstances as any other material production. Hence we find that when a town or a district is busy and bustling, and strangers resort to it, both the population and the energy increase far faster than the numerical addition of strangers. But, on the other hand, when it becomes dull, and strangers cease to resort to it, it dies away, both in population and in mental energy, even though none of the people leave it. Thus, it is not leisure that mankind needs, it is stimulus and activity; and study, even the most profuse and abstruse study, thrives better in the few snatches of time which the busy man can spare for it, than in all the listless and loitering days of him who has nothing to do.—[Mudie.]

EWBANK'S PATENT TINNED LEADEN PIPES.—We lately copied from a London paper a notice of a patent taken out in Eng-

land by Messrs. Warner, for the manufacture of leaden pipes coated with tin. The invention struck us at the time as one of great value, and we have since learned with pleasure that it was made in this city: the Messrs. Warner having purchased the right for England of the inventor, Mr. Thos. Ewbank, of New-York, who has a patent for the United States.

It is well known to persons, who take pains to observe, as well as to the scientific, that leaden pipes are corroded by many of the fluids which pass through them, and that the small portion of acid which it often contains, in the course of time dissolves a perceptible quantity. Beer pipes made of this metal are often found deeply corroded; for the acetate of lead, which is a most poisonous chemical salt, is easily soluble, and is taken off by the fluid which aids in its formation. Mr. Ewbank's pipes are effectually guarded against this source of danger, by being lined within and without with pure tin. It is of great importance to know also that leaden vessels for culinary use may be protected from the action of acids in the same manner.

Patents, we understand, have been heretofore taken out in England, for coating lead with tin; but the processes rendered the expense too great, and they have been useless. Mr. Ewbank, on the contrary, is able to afford his pipes at a small advance only on the price of those made entirely of lead, which will greatly facilitate their general introduction.

Delayed Improvements. By Prof. C. S. Rafinesque. [Communicated for the Mechanics' Magazine.]

It is a sad but positive fact, that almost all the greatest improvements have been resisted and opposed, or at least their introduction long delayed in this country, although they might be evidently practicable, useful, and even cheaper. We may remember the opposition to steamboats, canals, &c. as an instance, and the long delay in introducing lithography, railroads, tunnels, slate roofs, and a hundred other useful arts. The slow progress of the useful and valuable staples of wine and silk, so well calculated for our soil and climate, is another instance in point. The same has happened with education. There were schools for the deaf and dumb, also for the blind, 50 or 60 years ago in Europe, while they are just beginning here. The Fellenberg schools are hardly adopted with us. Free colleges and libraries are common even in despotic countries, and we have hardly any as yet. Hundreds of improvements and peculiar manufactures have not yet reached our shores. Our ingenious men and mechanics are often compelled to carry their inventions abroad. Our patent laws are sadly defective; striking improvements are neglected, although brought forward at great expense; when valuable, they are stolen, and the remedy at law is often beyond the reach of many.

Our country is making rapid strides in prosperity, wealth and population; but greater strides are yet to be made, through improvements of all kinds, and a judicious selection or application of the actual, well known, practicable improvements.

Thus, it is well known that trees can be removed root and all, and land perfectly cleared at once by machines, and at little expense; that steam ploughs could be constructed that would, in level or cleared land, perform the work of six ploughs and twelve horses, at one sixth part of the time and expense, cutting six furrows at once, and reducing one week's labor on a farm to one single day's labor. This is well known, and yet not in use, although calculated to achieve wonders in agricultural pursuits.

It is well known to some, that railroads can be constructed that are carried along by the cars, which supercede the use of railroads and durable tracks, and only require level M'Adam roads; yet we are going to build a thousand miles of railroad, and waste on them ten millions of dollars.

It is known that ships and steamboats may be built that can never sink, even when striking against rocks and ice, or quite wrecked. Even the Chinese knew something of the kind 2000 years ago; yet we daily build merchant ships and ships of war liable to sink and be lost, as many are every year, even in our national navy, besides steamboats, &c.

It is known that houses and ships may be built that can never catch fire, nor burn. There are cities in the world, as large as New-York, where a fire does not happen once in ten years, and even then burns only the contents of the houses and not the houses themselves; yet we continue to build combustible houses, and doom ourselves to be burned alive, as many are every year throughout these States.

All this arises from inveterate bad habits and ignorance; because we neglect to apply to and employ the learned and wise practical improvers, instead of the more plodding engineers and architects.

Manufacture of Cotton in the United States.—The New-York Mercantile Advertiser contains the subjoined interesting article:

We proceed according to our promise, to give further statements of the state of the Cotton manufactured in the United States, in 1831, as collected by the Committee of the New-York Convention. In our paper of Saturday last we showed that there were in twelve States of the Union, 795 cotton mills, with a capital of 40,714,984 dollars, manufacturing annually 77,751,316 lbs. of Cotton, or 214,882 bales of 361 $\frac{87}{100}$ lbs. each.

Number of Spindles - - -		1,246,903
Do. of Looms - - -		33,506
Pounds of Yarn sold - - -		10,642,000
Yards of Cloth made - - -		230,461,900
Pounds of Cloth - - -		59,604,925
Hands employed—Males	18,539	
Females	38,927	
		57,466
Pounds of Starch used - -		1,641,253
Barrels of Flour for sizing -		17,245
Cords of Wood burnt - -		46,519
Tons of Coal do. - -		24,420
Bushels of Charcoal burnt - -		9,205
Value of other articles consumed not enumerated - - - -		$599,223
Spindles then building - -		172,924
Gallons of Oil consumed - -		300,338
Hand Weavers - - -		4,760
Total dependents - - -		117,626
Annual value of Cotton Manufactures - - - - -		$26,000,000
Aggregate or total annual amount of wages paid - - - - -		$10,294,944

That there may be no doubt as to the accuracy of these statements, we give the names of the following gentlemen, through whose means the accounts were collected from the manufacturers in the different States, viz.: Maine and New-Hampshire, Lloyd W. Wells and John Williams; Massachusetts and Vermont, Robert Rogerson & Patrick T. Jackson; Rhode Island, James De Wolf, James F. Simmons & Charles Jackson; Connecticut, J. H. De Forest; New-York, E. B. Sherman, James Wilde and Richard P. Hart; New-Jersey, Kentucky, Ohio and Indiana, David Holsman and Mark W. Collet; Pennsylvania, Delaware and Tennessee, Levi Waln and Alexander Breckenridge; Maryland and Virginia, Columbus James, Columbus O'. Donnell and J. W. M'Culloch.

Fattening Hogs.—Farmers are not generally aware of the importance of boiling food for hogs. The nutritive properties of food are increased, in some instances, from ten to twenty-five per cent. Two bushels of potatoes boiled are more valuable for feeding than three when fed raw. Potatoes, pumpkins, squashes, and cabbages, when boiled and mixed, make excellent food for hogs, for the first three or four weeks, after which, those who wish for firm flesh should begin to add a little corn meal.

Potatoes and pumpkins, when boiled with a small quantity of corn meal, will answer well for three-fourths of the time allotted for fattening, after which soft corn, and after that corn meal, should be used.

Hogs fatten better, and it can be done at less cost, when feeding commences early than when it is deferred until October or November, besides the pork brought early to market usually commands a higher price.

Proper Age of Cattle for Fatting.—Animals arrived at their full age, at least full size, are well known to be the most proper speedily to take on fat, since nature is not then impeded by a double process. Young animals of great substance, and well formed, will likewise fatten to good profit; but they are generally adapted to the gradual plan of grazing, which is prolonged eighteen months or two years. The grazier thus reaps the profits of their natural growth or increase in stature. There is another species of increase, technically styled growth; it is the spread or extensions of muscular flesh in full aged animals, of large bone and capacious frame.

Tallow is formed from the surplus nourishment given to animals, beyond what is necessary for their more physical developement; whence it follows that those which have not obtained their full growth are fatted with difficulty, and only by extraordinary means. Calves, for example, can only be fatted by great quantities of milk, to which must often be added eggs, barley or oat meal, or the flour of beans or peas; and with all this abundance and selection of food, they yield little if any interior fat or tallow. Whereas oxen, at six years of age, with corresponding treatment, give large quantities of that article. Old cattle are also, from loss of teeth, debility of stomach, or other internal disorganization, difficult to fat. These facts sufficiently indicate what, on this head, ought to be our practice: to fatten cattle as soon as they have obtained their growth at five or six years, and sheep and hogs at two.—[Treatise on Agriculture.]

A Groom infected by the Glanders.—There are many diseases incident to other animals from which man is exempt. But there are many of them contagious to him. An instance of this kind lately occurred in London.

A groom had been attending a horse diseased with the glanders, and had carelessly permitted the discharge from its nose to fall on his hands—and witlessly to remain. A fortnight sent him to an hospital, complaining of an unaccountable debility, which changed to diarrhœa, and to delirium. Soft tumors and globular postules afterwards appeared on different parts of his body; and an occasional discharge issued from his nostrils. So singular a case warranted scrutiny; and begat suspicion of glanders, which was confirmed by the patient's answer how he had been employed. An eminent veterinary surgeon was sent for, and the case was rendered too plain to admit of doubt. Death was inevitable. The cry for water! water! became incessant, and all that the medical attendants could do was to mitigate pain; and the patient soon ended his life.

LIBERTY AND KNOWLEDGE.—The Congress of the United Mexican States have appropriated *thirty thousand dollars* for the purchase of periodical publications—almost all of which are, of course, to be imported from foreign countries. The bill, as passed by the House of Representatives, appropriated $25,000; but on being increased by the Senate, was adopted with their amendment. Our countrymen will believe that the Mexicans are in earnest in the pursuit of national happiness, by the only means, viz. the improvement of the people, when they see the government adopting measures that reflect so much honor upon their judgment and their feelings.

CURIOUS RECORD.—Mr. Madden, in his work entitled the "Infirmities of Genius Illustrated," presents us with a curious record of the average influence of different studies on the longevity of those engaged in them. The record consists of a tabular arrangement, in which are several series of the most celebrated authors in the various departments of intellectual labor. Twenty persons are included in each list; the names and ages of each are given, and from the united amount of the latter is taken the average age to which the members of each of the classes survive.

The first table includes *Natural Philosophers*, whose names and ages are as follow: Bacon, (Roger,) 78; Buffon, 81; Copernicus, 70; Cuvier, 64; Davy, 51; Euler, 76; Franklin, 85; Galileo, 78; Dr. Halley, 86; Herschel, 84; Kepler, 60; Lalande, 75; Laplace, 77; Lewenhoeck, 91; Leibnitz, 70; Linnæus, 72; Newton, 84; Tychobrahe, 55; Whiston, 95; Wollaston, 62.

The second table is that of *Poets*—Ariosto, 59; Burns, 38; Byron, 37; Camoens, 55; Collins, 56; Cowley, 49; Cowper, 69; Dante, 56; Dryden, 70; Goldsmith, 44; Gray, 57; Metastasio, 84; Milton, 66; Petrarch, 68; Pope, 56; Shenstone, 50; Spencer, 46; Tasso, 52; Thomson, 48; Young, 84.

The contents of the remaining tables are as follow:

Moral Philosophers—Bacon, 65; Bayley, 59; Berkeley, (G.) 79; Condorcet, 51; Condillac, 65; Descartes, 54; Diderot, 71; Ferguson, (A.) 92; Fichte, (J. T.) 52; Hartley, (D.) 52; Helvetius, 57; Hobbes, 91; Hume, 65; Kant, 80; Kames, 86; Locke, 72; Malebranche, 77; Reid, (T.) 86; Stewart, (D.) 75; St. Lambert, 88.

Dramatists—Alfieri, 55; Corneille, 78; Goethe, 82; Massinger, 55; Marlow, 32; Otway, 34; Racine, 60; Schiller, 46; Shakspeare, 52; Voltaire, 84; Congreve, 59; Colman, (G.) 61; Crebillon, 89; Cumberland, 80; Farquhar, 30; Goldoni, 85; Jonson, (B.) 63; Lope de Vega, 73; Moliere, 53; Murphy, 78.

Authors on Law and Jurisprudence—Bentham, 85; Blackstone, 57; Butler, (C.) 83; Coke, 85; Erskine, 73; Filangieri, 36; Gifford, 48; Grotius, 63; Hale, 68; Holt, 68; Littleton, 75; Mansfield, 88; Montesquieu, 66; Redesdale, 82; Romilly, 61; Rolle, 68; Tenderden, 78; Thurlow, 74; Vattel, 53; Wilmot, 83.

Miscellaneous and Novel Writers—Cervantes, 70; Le Sage, 80; Scott, 62; Fielding, 47; Smollett, 51; Rabelais, 70; Defoe, 70; Ratcliffe, 60; Richardson, 72; Sterne, 56; Johnson, 75; Addison, 48; Wharton, 78; Steele, 59; Tickell, 54; Montaign, 60; Bathurst, (R.) 84; Thornton, 44; Hawkesworth, 59; Hazlitt, 58.

Authors on Revealed Religion—Baxter, 76; Bellarmine, 84; Butler, (John,) 60; Bossuet, 77; Calvin, 56; Chillingworth, 43; Doddridge, 54; Fox, (G.) 67; Knox, (John,) 67; Lowth, 77; Luther, 63; Massillon, 79; Melancthon, 64; Paley, 63; Porteus, 77; Priestley, 71; Sherlock, 67; Wesley, 88; Whitefield, 56; Wycliff, 61.

Authors on Natural Religion—Annett, 55; Bolingbroke, 79; Cardan, 75; Chubb, 65; Drummond, (Sir W.) 68; Dupuis, 67; Freret, (N.) 61; Gibson, 58; Herbert, (Lord,) 68; Jacobi, 56; Paine, 72; Pomponatius, 63; Rosseau, 66; Spinoza, 45; St. Pierre, 77; Shaftsbury, 42; Tindal, 75; Toland, 53; Vanini, 34; Volney, 66.

Medical Authors—Brown, (J.) 54; Corvisart, 66; Cullen, 78; Darwin, 72; Fordyce, 67; Fothergill, 69; Gall, 71; Gregory, (John,) 48; Harvey, 81; Heberden, 92; Hoffman, 83; Hunter, (J.) 65; Hunter, (W.) 66; Jenner, 75; Mason, Good, 64; Parcelsus, 43; Pinel, 84; Sydenham, 66; Tissot, 70; Willis, (T.) 54.

Philologists—Bentley, 81; Burton, 64; Casaubon, 55; Cheke, 44; Hartzheim, 70; Harman, (J.) 77; Heyne, 84; Lipsius, 60; Parr, 80; Pauw, 61; Pighius, 84; Porson, 50; Raphelengius, 59; Salmatius, 66; Scaliger, (J. J.) 69; Sigonius, 60; Stephens, (H.) 71; Sylburgious, 51; Vossius, 73; Wolfius, 64.

Artists—Bandinelli, 72; Bernini, 82; Canova, 65; Donatello, 83: Flaxman, 71; Chiberti, 64; Giotto, 60; Michael Angelo, 96; San Sovino, 91; Verocchio, 56; Caracci, (A.) 49; Claude, 82; David, 76; Guido, 67; Raphael, 37; Reynolds, 69; Salvator Rosa, 58; Titian, 96; Veronese, (Paul,) 56; West, 82.

Musical Composers—Arne, 68; Bach, 66; Beethoven, 57; Burney, 88; Bull, 41; Cimarosa, 41; Corelli, 60; Gluck, 75; Gretry, 72; Handel, 75; Haydn, 77; Kalkbrenner, 51; Keiser, 62; Martini, 78; Mozart, 36; Paisello, 75; Piccini, 71; Porpore, 78; Scarlatti, 78; Weber, 40.

The result, then, that we derive from these tables, is that natural philosophers have the longest lease of existence, the united ages of the twenty enumerated being 1504 years, which gives an average of 75 years for each. The results in the other cases, with respect to the united ages, and the average each, are: Moral philosophers, united ages, 1417—average of the life of each, 70; sculptors and painters, 1412—70; authors on law and jurisprudence, 1394—69; medical authors, 1368—68; authors on revealed religion, 1350—67; philologists, 1323—66; musical composers, 1284—64; novelists and miscellaneous authors, 1257—62½; dramatists, 1249—62; authors on natural religion, 1245—62; poets, 1144—57. According to the results of this calculation, it would appear that those mental labors in which the imagination is most actively employed are least conducive to long life. Other conclusions with respect to different occupations are drawn by Mr Madden, who seems to be of opinion that an exact scale may be laid down, by which, the particular occupation of any person being given, the probable length of his life may be determined.

WOMAN.—To the honor, to the eternal honor of the sex, be it said, that in the path of duty no sacrifice is with them too high, or too dear. Nothing is with them impossible, but to shrink from what love, honor, innocence, religion, requires. The voice of pleasure or of power may pass by unheeded, but the voice of affliction never. The chamber of the sick, the pillow of the dying, the vigils of the dead, the altars of religion, never fail to excite the sympathies of woman. Timid though she be, and so delicate that the winds of heaven may not too roughly visit her, yet she fears no danger, nor dreads no consequences. Then she displays that undaunted spirit which neither courts difficulties nor evades them; that resignation which utters neither murmurs nor regret; and that patience in suffering which seems victorious even over death itself.—[Judge Story.]

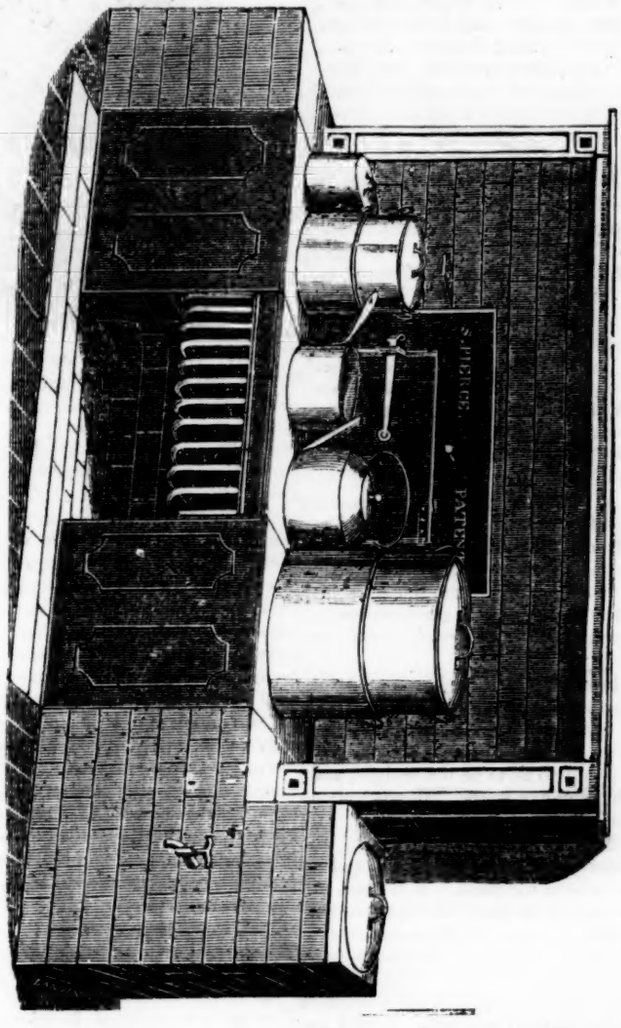
WANT OF OBSERVATION.—In matters connected with the earth itself, the want of common observation, and the loss occasioned by that want, are still more striking. If coal, or iron, or any other useful mineral, is found for the first time in any district, it will, in general, be found that the discoverer is not a native, but some stranger. There is a case in point. The greenstone rocks, which form a considerable portion of the lower valley of the Tay, contain vast numbers of veined agates or Scotch pebbles, and in some places the rock has, to a considerable depth, crumbled into mould, well fitted for agricultural purposes: but the pebbles, containing less clay than the stone in which they have been formed, and being of a close texture, do not decompose so readily. In consequence, there are whole fields and farms, where, excepting where the ground has been opened for quarries, every stone that can be picked up is an agate, just as in the chalk districts of England every stone that can be picked up is a flint. Some years ago those pebbles were fashionable, if not valuable, (and except in durability, size, or some use in the arts, fashion forms much of the value of any stone,) and they were consequently esteemed. The proprietor of one of the estates, on which there is really nothing but pebbles, was in London on some business; and as he did not often visit the metropolis, he resolved to purchase some trinket for his wife, as a memorial of his journey. He went to a jeweller's, and was shown all the varieties of gems and pastes, but he rejected most of them on account of their smallness, and made his election of a necklace, &c. of large and strongly marked Scotch pebbles. So much did he admire these, that he began to question the jeweller (who was also a lapidary) what part of the world was so rich as to furnish jewels so splendid. With utter astonishment he heard the name of his own estate as the place where, in one day each season, a sufficient supply had been collected, during the time that the stones had been in fashion. The owner of the mine of so much beauty, and as it appeared to him, from the price that he had paid, of so much wealth, would have been glad to exchange his purchase for something that he could not get at home; but still he was pleased that the mine was his freehold. Home he returned; the present from London was duly seen and admired; and the very next morning, taking his mole-staff with him as a divining rod, he was early at his rhabdomancy. Three days he consumed in diligent and laborious search, keeping the secret of his wealth with great care, until he should astonish the world with its amount. In the course of his labor he picked up many stones,

but, as they were all very rough and unpromising to look at, he cast away as fast as he gathered, till the third day and his patience were nearly at a close together. When he had nearly reached his home, he took up one of those nodules of which he had previously taken up and thrown down so many, and dashed it upon the rock with all his force, as if in vengeance for the deception which he had practised on himself. The stone broke in pieces, and in the fractures he found the colors, but not the lustre, of those disks which had so pleased him in London. He soon began to reflect that his uncut pebbles were not saleable trinkets, any more than the soil of his farm was saleable quarters of wheat; so he prudently resolved to follow his farming, and leave the pebbles to the lapidary, as before. The purchase, too, retained its value, as the pebbles that were collected from the fields as an incumbrance, and used in paving the court and filling drains, could not rival it; and he even boasted that the trinkets were the produce of his own estate, and spoke with admiration of the art and skill of the Londoners, who could make a few ounces of that, which was not worth sixpence a ton where it was found, worth several pounds in the market.

That is a homely anecdote, but it is a useful one, as it points out one of the reasons why those whom we would, without reflection, think should study natural substances the most, yet actually study them the least. It shows, too, that that is especially the case with minerals. The occupation of the people of any district runs in a train; those who are not required for the working of that train migrate to other places; and if any one betakes himself to the study of nature, he is branded as an idler, or wizard, according as the current of popular feeling sets,—and whether it set the one way or the other, he is equally certain to be ejected from the companionship of the district, and must either associate with those at a distance, or be idler in reality.—[Mudie.]

MEANS EMPLOYED BY THE SPIDER IN WEAVING ITS WEB.—We find, in the introduction to Entomology by Kirby and Spence, a very curious description of the means employed by spiders in warping their webs. The author, after having described the four little spiders, as they call them, which produce a visible silk, explains the procedure of this little insect, whose work he compares to the spinning wheel of the rope maker. Each spider is pierced with an infinite number of holes, like the drawing plate of a gold wire drawer, and these holes are so small and tight, that the space which a pin would occupy would contain more than a thousand such. From each of these issues a thread of inconceivable fineness, which instantly unites with the others to form but one. The four spiders each making their thread in the same manner and in the same time, the result is that there are four threads alike, which, at the distance of about a tenth of an inch, re-unite also to form the silk that we are accustomed to see, and which the spider makes use of to spin her web. Thus the thread of a spider drawn by the smallest species, and so delicate that the eye can scarcely perceive it, is not, as is generally thought, a single thread, but in reality a cord, which contains not less than four thousand of them.

But to understand perfectly this wonder of nature, it is necessary to follow the calcu-four millions to form the thickness of a hair. lations made by the learned Leuwenhoeck, Now we know that each one of this series is agreeably to his microscopic observations. already composed of four thousand threads; He has found that the thread of the smallestit follows then that sixteen millions of these spider, of which some are not as large as athreads, drawn by the little spider, have not grain of sand, were of such a fineness thattogether the thickness of a hair.—[Jour. des it would be necessary to unite more than Con. Usuel.]



PIERCE'S KITCHEN RANGE AND COOKING APPARATUS.—Undoubtedly most of our readers bear in mind that stern winter has already, from the far north, commenced his journey for these quarters. We would remind them of what they have all very probably experienced, that he comes rapidly, and seldom fails of having to punish even the most prudent for not having been more diligent in timely preparations. We benevolently, therefore, advise them to hasten away to 201 Chamber street, New-York, and see what Mr. Pierce has to show them. In addition to the conveniences exhibited in the cut, Mr. P. will point out to them many others, particularly additional boilers heated by tubes.

One serious objection to the common cooking stoves is, that they make the room too hot, rendering the inmates very liable to take dangerous colds, in passing suddenly and frequently from the kitchen into other apartments and into the open air.

We select the following from the recommendations published in Mr. P.'s circular:

NEW-YORK, August 1, 1833.

A Cooking Range and Grate for Anthracite Coal, constructed by Mr. S. Pierce, has been in use in my house for more than two years. It has answered its purposes perfectly well, and besides proving much more convenient than the old method of cooking with wood, it has proved to be eminently economical. EDW. DELAFIELD.

NEW-YORK, July 30, 1833.

Mr. S. Pierce has fitted a Kitchen Range and Cooking Apparatus, adapted to the use of Lackawana coal, in my kitchen, which I approve of very highly, and recommend to public patronage. PHILIP HONE.

NEW INVENTION.—A gum elastic cloak, lined with silk, has been invented in Baltimore. It is intended to be thrown over the shoulders in wet weather, and will effectually shield the person and clothes of the wearer. When not wanted, it can be folded up into a very small bulk, and, on this account, must be found very useful and convenient. We mean to have one ordered on for our own use, so as to be ready for the next fall elections.—[Cin. Rep.]

CINNAMON STONE.—M. Laugier has found the massive cinnamon stone of Ceylon to be composed of silex 38, lime 33, alumine 19, ox. iron 7. He regards it as a silicate of lime and alumine, with an accidental portion of iron.—[Bull. Univ.]

LIME.—This is a simple mineral, or a letter in the geological alphabet, and a rock scattered very extensively and in vast deposits over the face of the globe.

Lime appears under a greater variety of color, texture and form, than any other rock. There are probably two hundred varieties of marble, all, or nearly all of which, are lime. Chalk, with the endless and boundless deposits of the more common limestone, is composed of the same elements. It crystalizes into numerous forms. Calcareous spar, with rhombic sides, is one form; a six sided prism is another; and several others might be named.

Lime exists in exhaustless abundance in almost every country. In many places it is the most common and almost the only rock.

No rock perhaps differs so much in its age, or in the periods in which the different deposits were formed. The oldest limestone was formed before the most recent granite. The most recent deposits are at this time accumulating; so that the formation of limestone has been constantly going on for nearly six thousand years at least, consequently some specimens are about six thousand years old, and perhaps much more, while others have not completed their first year.

The uses of lime are very numerous and very important. In many places it is the common and only material for the walls of houses, the enclosures of farms, &c., and in every place is esteemed for the finest architectural work. It is the most common material for statuary work, and carving of various kinds.

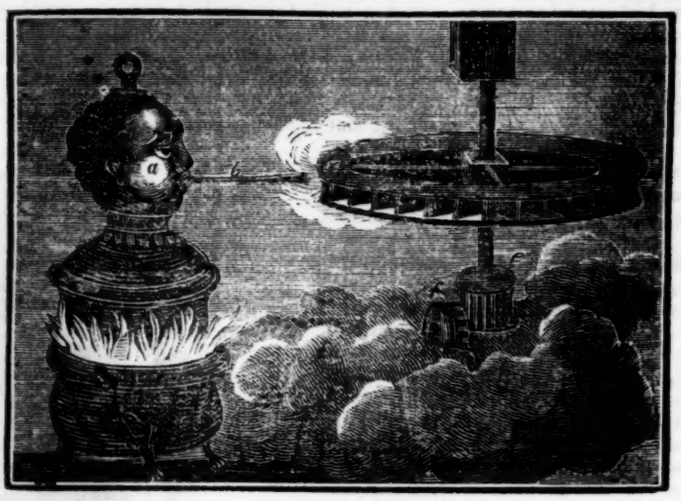
For the interior walls of houses, or for plastering rooms, &c., it is nearly indispensable. Some specimens are of great value for water cements, as they cement the masses of stone in a wall so as to be water tight, and even grow hard under water. This is called hydraulic, or water lime.

Lime when burned has something of an alkaline property, like potash or soda, and is used as a substitute for them. It is used as a flux, or an aid in melting, in the manufacture of the coarser kinds of glass, and in the smelting of iron. It is also used as a medicine.

Upon soils which do not contain a portion of lime, it is a valuable manure. It may be burnt and slacked, or pulverized otherwise, and applied to the land. Marl, which is lime commonly mixed with clay and sand, owes its value as a manure to the lime it contains.

The simple elements of lime are fewer in number than those of the rocks before named. The only elements which compose pure limestone, are oxygen, calcium, carbon, and usually a little hydrogen. Burnt lime is little else than oxygen and calcium; lime in the quarry has oxygen and carbon, or carbonic acid with a little water, or oxygen and hydrogen are added. In the process of burning lime, the carbonic acid and water are driven off, so as to reduce it from a carbonate and hydrate to pure lime, which is oxygen and a metal called calcium.

INFLAMMABLE SPRING.—In the township of Wales, 15 miles from Buffalo, near the bank of a small stream, there issues from a ledge of slate rock a stream of air, which, on the application of a torch, takes fire, and continues to burn till it is extinguished by the rising of the water of the rivulet. The flame is about 6 inches in length, and 2½ in diameter.



FIRST APPLICATION OF THE POWER OF STEAM TO A USEFUL PRACTICAL PURPOSE.—The first person in modern times who applied the expansive power of steam on any scale to a useful practical purpose, was Giovanni Branca, an eminent Italian mathematician, who resided at Rome in the beginning of the seventeenth century. His contrivance was an œlipile, from which steam issued upon a wheel formed with float-boards or vanes, like a water-wheel or wind-mill, and thus produced a rotatory movement. This wheel, by some intermediate mechanism, gave motion to the stampers of a mill for pounding drugs. The above figure is copied from that given by Branca to explain his invention; but it must be considered only as an ornamental and picturesque illustration of the principle by which he produced the moving power in his stamping-mill; not as a view of any part of the machinery which was actually constructed. *a* is a boiler in the shape of a negro's head. *b*, a pipe proceeding from it, which conducts the steam upon the vanes or boards of a wheel, *x*. Other wheels, *e*, *f*, are attached in the usual manner to communicate the motion in the required direction.*

It is on account of this contrivance that Branca is considered by his countrymen to be the inventor of the steam engine; and even in a recent English work† on this subject, he is allowed the merit of a *first idea*. To this he certainly has no claim; neither can his engine be compared with Hero's for its ingenuity, nor to De Caus's for its efficiency. Besides, long before this period, the same mechanism was described by Cardan, as moved by the "vapor from fire." And the mere substitution of steam by the Italian philosopher is not so original or important, as to give to the transition the rank of an invention. Branca was, however, a man of much ingenuity, and many of his machines are highly creditable to his abilities as a scientific mechanic.

The elasticity of the vapor of water, which had long been known to philosophers, but to them only, had now become familiar to water-work artists; and in their hands it was applied in a variety of ways to their favorite problem of raising water above its level in jets and fountains. Without vouching for the great effects said to be produced by these machines, we will describe two, as necessary to give a clear notion of the value of these conceits, and as specimens of the ingenious absurdities, which, under the name of *Air Engines*, were recommended even by experienced engineers about this period. The machines themselves, under another form, are to be found in the *Spiritalia*. The book from which they are extracted in their present shape was one of some reputation in its day, and many years after its publication it was thought worthy of being translated into English. The translation went through two editions.*—[Stuart.]

The engraving in the preceding page is one descriptive of the first *useful* application of steam. We shall now introduce to the notice of our readers a description of the first recorded observation of its application to produce motion, and although it must be considered as a mere toy, its introduction in our pages will, we hope, not be considered out of place.

FIRST APPLICATION OF STEAM POWER.—Although the elastic power of the vapor of water must have been familiar to man from

* Branca's account of his contrivance is contained in a folio volume of machines, which he dedicated in 1628 to a M. Canci, Governor of Loretto. It was published at Rome in 1629, under the title of "Le Machine Diverse del Signior Giovanni Branca." Our engraving is contained in Plate XXV of that collection.

† Partington's Historical Account of the Steam Engine. London, 1822.

* "New and Useful Inventions for Water Works: a work both useful and delightful for all sorts of people; translated into English by John Leak." The plates appear to have been those used in the French edition.

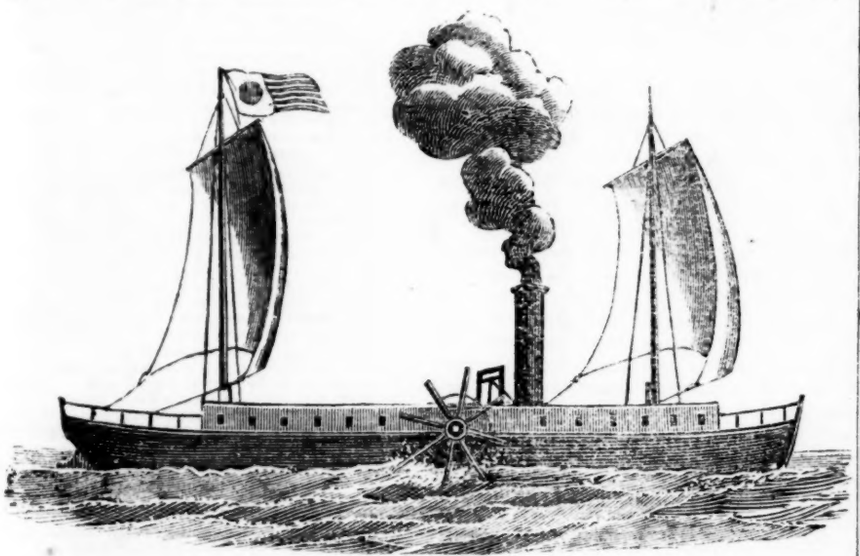
the earliest period of his history, the first recorded observation of the fact, and the application of steam to generate motion, appear to have been made by a Greek mechanic, about one hundred and thirty years before the Christian era.

Hero the Elder, who flourished at Alexandria in the reign of Ptolemy Philadelphus, was eminently distinguished in that age and region of refinement, not only for the extent of his attainments in the learning of the time, but also for the number and ingenuity of his mechanical inventions. In one of his books, he deduced all the laws of what are called the mechanical powers from the properties of the lever. His *Spiritalia*, or Pneumatica, contains the first account of the forcing pump: of a fountain, still known by his name, in which water is elevated in a jet by the elasticity of condensed air. Among other contrivances in the same treatise, he describes two machines of his invention; in one of which a rotatory motion is produced by the emission of heated air; and a similar movement is imparted to the other by the reaction of vapor rising from boiling water.

A pipe, *a*, is directed by Hero to be inserted under the hearth of an altar, on which a fire is burning. This pipe, placed in a vertical position, is moveable on a pivot, *b*, resting on the base of the altar. Two other pipes, *c*, *d*, of smaller diameter, proceed from the vertical one in a horizontal direction, having their extremities, *e*, *f*, open and turned upwards. A base or drum, *g*, is attached to the pipes, on which are placed small figures in various attitudes. The air at the upper extremity of the vertical pipe being heated by contact with the under side of the altar hearth, is expanded, and descends into the pipe, and proceeding along the horizontal arms is expanded, at their orifices, *e*, *f*. This causes them to revolve round the pivot *b*, so that the figures which are placed on the base *g*, are carried around with and appear "to lead the dance, as if they were animated beings."

It is scarcely necessary to notice the identity of this elegant apparatus with that of Barker's mill; and that the rotatory motion would be produced, as stated by Hero, though not by the *emission* of *warm*, but through the *admission of cold* air at the orifices in the horizontal arms, in consequence of the rarefaction at the upper end of the vertical pipe under the hearth of the altar. —[Stuart.]

In addition to the foregoing descriptions of the "First Application of Steam," and the "First Useful Application of it," we now insert a cut of Mr. Fulton's first boat, (the *North River, or Clermont,*) which we copy from a drawing made by himself, and which may be considered as descriptive of the *first successful application of steam in navigation.*



The following boats were built under the superintendance of Fulton, or according to his plan, during his life-time:

	Names.	*Tonnage.*	*Where employed.*
1806	North River, or Clermont	160	Hudson river
1807	Raritan	120	Raritan river
1807	Car of Neptune	295	Hudson river
1811	Paragon	331	Hudson river
1812	Fire-Fly	118	From New-York to Newburgh
1812	Jersey Ferry Boat	—	Ferry Company
1813	Richmond	370	Hudson river
1813	Washington	275	Potomac river
1813	York Ferry Boat	—	Ferry Company
1813	Nassau Ferry Boat	—	Brooklyn Company
1813	Fulton	327	Long Island Sound
1814	Fulton the First	2475	Navy Yard
1816	Olive Branch	—	Between New York & New Brunswick
1816	Emperor of Russia	330	Undetermined
1816	Chancellor Livingston	526	Hudson river.

For a description of Mr. Fulton's first trip, see Vol. II. page 291, of the Railroad Journal.

Since the above was in type, Captain Davis Hunt, who was the commander of the boat, has seen the engraving, and pronounces it correct in every particular.

CITY OF PHILADELPHIA.—As a proof of the prosperity of Philadelphia, the enterprize and spirit of her citizens, the public improvements in progress, and the anticipated internal advantages in our city, the Commercial Herald had recently two articles on the local statistics of our city, chiefly relative to the public buildings or works recently completed or now in preparation. We extract the list, as compiled for the Philadelphia Gazette, with the computed cost of each building or work:

The Fairmount Water Works cost	$2,063,000
Bank of the United States	413,000
Bank of Pennsylvania	235,000
Girard Bank	250,000
Philadelphia Bank	50,000
Mint	175,000
Arcade	162,000
University, (new buildings only,)	60,000
Chesnut street Theatre	75,000
Arch street Theatre	63,000
Franklin Institute	34,000
Schuylkill Permanent Bridge	300,000
Upper Ferry Bridge, Fairmount,	110,000
Arsenal on the Schuylkill, below South street,	150,000
First Presbyterian Church, Washington Square,	55,000
St. Andrew's Church, 8th, above Spruce street,	65,000
City Prison, corner Broad and Arch sts.	50,000
American Sunday School Union	42,600
Sixth Presbyterian Church, Spruce st.	30,000
Baptist Church, Sansom street,	33,000
Baptist Church, Spruce street,	25,000
Twelfth Presbyterian Church, 12th and Walnut streets,	30,000
Custom House and Stores	97,100
Farmers' and Mechanics' Bank,	50,000
Commercial Bank,	27,000

To these may be added the Pennsylvania Institution for the Deaf and Dumb, Academy of Fine Arts, Academy of National Sciences, Masonic Hall, City Library, Orphan's Asylum, Widow's Asylum, Walnut st. Theatre, Pennsylvania Hospital, Almshouse, Hall of Independence, and a long list of other public buildings, and upwards of one hundred churches, the cost of which we are unable to state.

The following Public Buildings are now in progress:

New Exchange, to be completed next year, architect's estimate	$250,000
Naval Asylum, to be completed this season,	250,000
Penitentiary, to be completed this season,	510,000
County Prison	228,000
Will's Hospital, for the Lame and Blind, to be completed this season,	50,000
Almshouse, completed next year, 7 to	800,000
Girard College, just commenced, architect's estimate	90,000
Central Presbyterian Church, estimate	58,000
Bricklayer's Hall	11,000
Moyamensing Hall	13,000
South front of Girard's square, sixteen houses, 4 stories high, with marble basements,	256,000
North side of Girard's Square, twenty-two houses,	200,000
Railroad in Broad, from Vine to South street,	60,000
Public School, Front, near Pine street,	10,000
Girard appropriation for improving the eastern front of the city	500,000

From this statement it will be seen that the cost of the Public Improvements in progress at this time amount to nearly *four millions and a half of dollars.*

And on the assessed value of real estate in the city and county of Philadelphia—excluding all the public buildings, all the churches, the squares, burying grounds, &c. none of which are subject to taxation—the Herald has been able to ascertain the average value:

In the City and Liberties	$95,063,057 50
Penn township, Germantown, Roxborough, Bristol, Oxford, Byberry, Moreland, Lower Dublin, Blockley, and Kingsessing,	11,872,350 00
Total,	$106,935,407 50

NOISE OF THE ANVIL—*A Simple and Useful Invention.*—An Italian blacksmith has successfully practised a very simple contrivance to diminish considerably the loud noise occasioned by the percussion of the anvil. It is merely to attach a piece of iron chain to one of the horns of the anvil, which carries off a portion of the usual acute sound. But Sig. G. Visini Asso, in the province of Coma, has introduced an improvement to this by adding a spring to the basis of the anvil, which, (keeping the chain stretched,) diminishes the sound in a much greater degree; and it is equally easy to remove the ring of the chain from the horn of the anvil by a mere blow of the hammer.—[N. Y. Daily Advertiser]

THE PROGRESS OF INVENTION EXEMPLIFIED.—Many volumes have been written on the gradual refinements of language, and learned men have pointed out the immense stride in improvement which has arisen from an unimportant innovation, yet millions had spoken the imperfect language without dreaming of the simple means by which the finishing touches could be given to it. The effects also which have flowed from apparently the most simple contrivances are almost incredible; and should those who are familiar with their most perfect forms be but casual observers, they may be startled at the exaggerated terms in which their value may be estimated—or disgusted with the claims of some mechanic, who, by merely adding a wheel or pulley, or giving a trifling difference to their proportions, may, by these means, have been the first to make the machine efficient. The simple process of drawing a cork will furnish the necessary illustrations.

The inventor of bottles is unknown; but these were in use for centuries before corks were thought of, and these again were employed for generations before a convenient method was hit upon for their extraction. The exhilarating contents could then only be tasted by what is now technically called "beheading the bottle." More expert practitioners had many opportunities of shewing their skill in removing the impediment by a dexterous twist of the fingers;

or, if that were impracticable, teeth were called in as their natural auxiliaries; here, however, in many cases, it was doubtful whether the cork would follow the teeth, or the teeth remain *in* the cork; and if an obstinate remnant would remain, a *nail* was a ready means of dislodging the stubborn plug, particle by particle,—when at any time, through an impatience of the nibbling labor, or a despair of accomplishing a clean extraction at all, it was resolved at once to send the obstacle the wrong way: this was then, indeed, an

invaluable instrument. A pair of skewers, or forks, inserted "witchwise," would sometimes accomplish those difficult cases which had baffled the exertions of all the naturals. Twisting the lower extremity of the "bare bodkin" into a spiral form, and adding a handle to it, was the thought of a master genius; and, in this shape, mankind, for ages, were contented to avail themselves of its services—and even at the present hour, some barbarous, uncouth countries and districts may be named where it is still the extractor in most general use. In our civilized land, it must be yet in the recollection of many, that this was, in numerous cases, a very inefficient machine; and the pleasure of beholding the generous beverage beaming through a crust of many years, was cruelly damped by the experience, that in proportion to the pains taken in fixing the cork, was the mental agony which must be endured during all attempts to remove it. Jovial fellows, who forget those days, in their moments of inspiration, may talk indeed of their Phillises, their Ianthes, their Delias, their Saccharissas, their Chloes, and their what-nots,—let them henceforth mingle a little gratitude with their admiration, and glorify a nymph greater than them all. Miss O'Rourke, like her own exquisite potteen punch, was a delightful compound from ingredients, both mental and corporeal, of the most opposite nature. The friend of Kosciusko, and the authoress of the Rhapsody, which afterwards rung so often throughout the country to the favorite tune (Gramachree) of the patriot Pole,—such another hostess was not in England wide, and no other of her order ever conferred so great a benefit on bottle-suckers as she did, by her

superlative invention of placing a *button* at the end of the screw-worm. Henceforth the decantering process was a mere matter of routine. When, in her green old age, Death laid his hand on the inventress, a piratical screw-maker took to himself the credit and profit of the button addendum. Yet Miss O'Rourke shall never be forgotten, even although her master-piece, some few years later, was eclipsed, and may be yet superceded by the *King's Screw*, which can receive no addition either to its beauty or convenience, except it be probably some little steam appendage to make it self-acting.—[Stuart.]

AMERICAN IRON.—It has been a study much attended to of late, to know the character of American and foreign iron, compared with each other.

The consumption of iron in the shape of boiler plates, and cast rails, is becoming enormous. The tenacity and character of the metal are yet to be thoroughly understood. The Baltimore iron is considered the best in the world for steamboats. As yet we do not fabricate wrought iron rails, but probably very soon shall, as machinery will be contrived to equalize the difference between the prices of American and English iron. Cast iron rails have been made with success at our own furnaces.

The American iron being melted by the heat of charcoal is allowed to be more tenacious than the English, which is melted by coke.

To put the matter completely at rest, however, very interesting experiments have been made at the apartments of the Franklin Institute, under the direction of Mr. Johnson, a scientific gentleman. The Secretary of the Treasury was authorized some years since, by an act of Congress, to expend a certain amount in constructing machines to make experiments on the tenacity of iron and other metals used in steam boilers. It was so constructed as to admit any degree of temperature up to 500 degrees Fahrenheit.

Some interesting results have thus been obtained. The Pennsylvanian, who is our authority for the assertion, says it is ascertained that the tenacity of good iron *is increased* by the application of any degree of heat under 450 degrees, which is contrary to previous entertained opinions. Some Tennessee iron (from the Cumberland works) was found equal to a resistance of from 59,000 to 64,000 pounds the square inch! The Pennsylvania and Connecticut iron exhibited the same qualities. No iron from our state was sent on for trial. We hope some of our proprietors of forges will not forget to submit specimens of their iron to the test of these experiments.

It was also found that common American iron was better than the best British, and the best American equal, and generally superior, to Swedish and Russian.—[Albany Daily Advertiser.]

WONDERFUL INVENTION.—A watchmaker of the name of Buschmann, living at Elsenburg, not far from Attenburg, in Saxony, has contrived a piece of machinery, which, without the assistance of steam, has been found strong enough to move a heavily laden waggon, placed in a fresh ploughed field, with the greatest ease, although sixteen horses could not stir it. The machine may be easily handled, and the vehicle moved by it most safely managed. The inventor has been offered $200,000 for the secret; but as he had obtained patents from all the principal German governments, he has refused all offers.—[Danville Reporter.]

CIDER CAKE—is very good, to be baked in small loaves. One pound and a half of flour, half a pound of sugar, a quarter of a pound of butter, half a pint of cider, one tea spoonful of pearlash, spice to your taste. Bake till it turns easily in the pans, I should think about half an hour.

[*From the Atlantic Souvenir.*]

MORNING AMONG THE HILLS.

How beautiful is this serene repose
Of nature 'mid her mountain solitudes!
How cheering to the heart that covets rest
The cooling freshness of the morning hour,
In quiet and seclusion, while the mists
Yet hang upon the bosom of the hills,
And clothe the verdant foliage with a veil
Of light and airy texture. There's a soft
And gentle flush upon the ambient air,
Which tells the holy hour, when day and night
Have met and kiss'd each other: and the pure
And honey'd fragrance that breathes all around,
Betrays where dawn has dallied with the rose,
And danced among the scented clover tops.
The flowers uphold their cups of nectar'd dew,
A morning offering to the glorious sun,
When he shall rise in beauty to receive
The tribute they have glean'd from moonlight hours,
And night's refreshing vapors. Not a sound
Is heard amid the quiet of the scene,
Save the blithe chirping of the joyous birds
That nestle in the thickets, and are forth
At the first blush of dawn, as if they were
The happiest of all creatures, drinking in,
From nature's purest fount, the draught of life,
Unmix'd with care's alloy. The river too,
Whose bosom is tranquillity, glides on
As silent as a fay at midnight's hush
Among the dreaming flowers. Its waves are still,
So still and calm they scarcely seem to flow;
As if indeed the water spirit's wand
Had charm'd them into slumber, deep and pure,
Such as the animal creation held
When night was in the heavens. Among its banks
The towering rocks, and foliage-cover'd hills,
And bright green trees, are shadow'd with a true
And faithful portraiture, as though a scene
As fair and beautiful had framed itself
Beneath the lucid waters, on whose breast,
Emblem alike of peace and poetry,
The white plumed swan glides pensively along,
And scarcely stirs the stream in which she laves.
All things conspire to harmony: the air,
The earth, the waters, every element
Is redolent of purity and peace,
As if in this retirement nature ne'er
Had known the marriage blight that waits upon
Her fairest and her loveliest. Oh! the bliss,
The dear delight of unadulterate scenes,
Where, in the deep seclusion of the wild,
Quiet distils, with soft and gentle power,
Like dew, upon the landscape. Could man know
The real estimate and worth of peace:
How much of happiness is in that word—
Of happiness, the boon for which he seeks
With such a thrilling ardor—scenes like these
Would have a lovelier charm, and nature's walks
Would own a fresh enticement, that should woo
His steps from riot, revelry and noise,
To dwell among the woodland haunts, where birds
Mingle their carols with the early breeze;
Or lead him, 'mid the rich perfume of flowers,
To drink enjoyment at her fairest fount,
Where morning wakes among the dewy hills.

THE FOUR SHIFT SYSTEM: *the best rotation for James River lands, or any good Wheat and Corn soils.*—[The following article, from the Farmer's Register, affords one of the many instances of the success attending a novice in farming, who observes and thinks. We wish our correspondents would furnish us with similar systematic statements.]

I imagine no one will deny that the best rotation of crops is that which yields the greatest profit to the farmer, and at the same time enables him to improve his land the most rapidly. The great object is to combine both profit and improvement. By some systems, you may improve faster than by the above, but then you may make much less profit; and by none, in a series of years, will you make more profit with the same improvement.

I think I cannot establish the above theory in a more satisfactory manner than by giving a concise account of the system practised on a James river farm for the last seventeen years, with what success I leave the reader to judge from the product. In the year 1816, I came to live on Shirley, a farm of nine hundred acres, —six hundred and fifty of which were cleared, and which had been in the hands of overseers for many years previous, who cultivated it on the old fashioned system of three shifts—that is to say, the first year in corn, second in wheat, and third in pasture—the most ruinous system that could be invented, taking into consideration the shallow ploughing, and waste of manure, or almost total disuse of it. By this system the farm was so much impoverished, that it barely supported itself two years out of three, when the two best fields were cultivated; and the third year they had to bring corn to support it from other lands at a distance. The whole farm was covered with galls. I merely mention these things to prove the impoverished state of the land.

I will also state the crops reported to have been made previous to my coming here to live. From twelve hundred to fifteen hundred bushels of wheat, (sometimes not merchantable,) and four hundred to six hundred barrels of corn, on either of the best shifts of two hundred acres each, was considered great cropping by the overseers; and seven hundred to one thousand bushels of wheat, and three hundred to four hundred barrels of corn, on the third shift of two hundred and fifty acres, was considered still better, as that was the poorest. This was about six or seven bushels of wheat, and two or three barrels of corn, to the acre, on the best fields, and much less on the poorest: so that it may be supposed the land must have been very much exhausted, and the management very bad. When I first came home to live I knew nothing of agriculture, and for the first three years continued the three shift system. But I soon saw that the overseer knew nothing of his trade, and what little he did know, did not practice; so that I dismissed him as soon as his term expired, and employed, for 1817, a man who was industrious and one of the best corn makers in the State, (having been all his life in the great corn country on the Pamunky.) From him I learnt how to make corn, but he knew nothing of wheat, clover, and plaster, or any of the present modes of improvement. However, by the aid of good ploughing, and collecting all the manure which had been neglected for years on the farm, he made a better crop of corn on the poorest shift, than had been made for many years back, even on the best. He made eight hundred barrels. His crop of wheat in 1818, following this crop of corn, was indifferent, (being still on the three shift system,) only eleven hundred and fifty bushels. I saw that there was something wrong about this system, and began to read a little on the subject of agriculture, and soon discovered that the three shift system was totally wrong; and although I sowed clover and plaster, it would not answer. At the same time that I began to read on the subject of agriculture, I went frequently to visit my good friend, John G. Mosby, who then lived in Curles' Neck, on James river, and to whom lower Virginia, or at least lower James river, is more indebted than to any other man in the State, for the introduction of clover and plaster, and the fallow system: the three forming the sheet anchor on a farm—for when all seems to be lost, they will save the ship.

From my friend J. G. M. (who, by and by, was one of the best farmers in the state,) I obtained a great deal of useful information; and in the fall of 1818, adopted the four shift system, by throwing out the poorest field of two hundred and fifty acres, and making a standing pasture of it, and cultivating the other two shifts in four fields of one hundred acres each, instead of two of two hundred acres each. This change required annually one field of one hundred acres in corn, a second in wheat after corn, a third in clover, and a fourth in wheat on a clover fallow: and the succession of crops on each separate field was in the foregoing order, of 1st, corn—2d, wheat—3d, clover—4th, wheat. The standing pasture prevented the necessity of grazing the cultivated part of the farm, except occasionally. The effect was like magic. The crop of wheat after the clover fallow, in 1819, was 3715 bushels, (which I carried to New-York, and got a high price for.) The crop of corn was tolerable, being four hundred and eighty-seven barrels. I now got fully into the clover, plaster and fallow system, and will now state the amount of crops, the seasons, the success, and failures, causes, &c. &c. and by way of fair comparison, will begin with 1816, the year I began farming.

Table of crops made upon the Three Shift rotation—

Year.	Wheat.	Corn.	
1816	1400 bshls.	450 brls.	The three fields
1817	1475 "	800 "	amounting to
1818	1150 "	670 "	650 acres.

Crops made on the rotation of four fields, each one hundred acres, (until 1832)—

Year.	Wheat.	Corn.	Oats.	Clover.
1819	3715 bshls.	487 brls.		a little
1820	1761 "	534 "		mowed
1821	1668 "	375 "	1000 bsh.	each yr
1822	1720 "	387 "	1170 "	50 tons
1823	2458 "	520 "	1751 "	30 "
1824	5322 "	383 "	1500 "	25 "
1825	2700 "	464 "	1000 "	40 "

REMARKS.

1820. Wheat nearly destroyed by rust this year: there was enough of straw for four thousand bushels.

1821. Wheat again nearly destroyed by rust —very heavy crop of straw. The oats made on forty acres of the corn land the preceding year.

1822. Rust on wheat again—the oats as before, and for the three next years, on part of the corn lands of the previous years.

1824. Including some inferior grain got from the screenings, the crop of wheat measured 5400 bushels.

1825. Rust again very destructive to the wheat.

Another change was made in 1826, and will continue through the remainder of the table, viz. the corn crops were altogether derived from the reclaimed swamp, then brought into cultivation, (as described in my previous communication,) and oats occupied the whole of the field before used for corn, and, thereafter, was the only spring crop of the rotation on highland, with a single exception in 1831. I will here remark that having a corn mill on the estate, which yielded enough toll corn to feed the laborers, and raise the hogs, and the oats being more than sufficient to feed the horses and other stock, the corn became all (or very nearly all) a sale crop. Besides the crop stated in the table, we generally made enough cotton to clothe the negroes, and pork to feed them, all of which had been purchased under the former three shift rotation.

Year.	Wheat.	Corn.	Oats.
1826	4030 bshls.	445 brls.	2500 bshls.
1827	2945 "	408 "	6000 "
1828	3300 "	508 "	1463 "
1829	3150 "	833 "	2255 "
1830	3681 "	620 "	2438 "
1831	3860 "	562 "	2300 "
1832	5900 "	509 "	Good crop, but [used without threshing.

REMARKS.

1827. This was the greatest oat year ever known in our country. We threshed and measured only half the shocks, which made three thousand bushels, and the remainder, estimated at the same, was cut up, and fed away in the straw.

1828. Ploughed in fifty acres of oats to ameliorate the land, having a large supply of the preceding year's crop still on hand. The effect produced by ploughing in the oats did not justify the repetition.

1829. Some oats cut up for feeding this year and the next are not included in the quantity stated for those years.

1830. Limed fifty acres fallowed land with five hundred casks of stone lime—the effect very considerable on the wheat.

1831. Two hundred barrels of this crop of corn were from twenty-five acres of the oat field, which is the only exception to the general practice of corn being excluded from the highland.

1832. Three hundred and twenty five acres in wheat, instead of two hundred as before, by an addition from the land before kept for pasture.

In the fall of 1831, the standing pasture (two hundred and fifty acres) was divided into four equal parts, and one of them added to each of the four fields, so as to increase the size of each to one hundred and sixty-two and a half acres. This year, 1833, I have purchased two hundred acres for a standing pasture, to make my system complete: and the next winter shall clear twenty-five acres more, to add to my cultivated fields, which (with the twenty-five acres in lots kept for grazing) will make seven hundred acres for cultivation, and two hundred for pasture, exclusive of the reclaimed land. I now expect to begin to reap the full benefit of my system of cultivation. The first four hundred acres may be considered as permanently improved, and the recent addition from the former pasture in a fair way of improvement, (as it is well taken with clover,) and the whole crops ought now to increase every year.

LARGE HOLLY TREE.—Taking a walk with some friends a few days since in Stafford county, Virginia, we came across a large and elegant green tree, which we were told was a holly. It seemed almost incredible from its size, as the holly, though a native of America, rarely attains to more than a foot diameter, through the trunk. Upon approaching we found it to be the true American holly, or *Ilex Opaca*, which, measured at two feet from the surface of the ground, was seven feet six inches in circumference, or more than two feet in diameter. This tree is situated immediately on the new mail road from Potomac Creek to Fredericksburg, and but a few yards from the present road, about half a mile from the landing, and is well worthy of notice, as I have never heard of a holly growing to such a size in this country.—[National Intelligencer.]

TO CURE THE KING'S EVIL.—Mr. Smith: Take of burdock, either tops or roots, and make a strong tea, and drink about a gill, morning, noon, and night; take of the seeds of the same plant, beat them fine, and spread them on a tar plaister; the tar should be put on a piece of leather, and cut a hole in the leather, and let the whole come over the sore.

This is to be continued until the cure is effected; it will take several months in some cases to effect a cure.

South Quay, June 22, 1833.

MR. AUDUBON.—This distinguished naturalist, (it is stated in the Boston Daily Advertiser,) returned from his Northeastern excursion to Boston on Wednesday, 4th ultimo. We believe that there is no one who will not be gratified to learn the progress of his arduous and unremitted labors in a branch of science which he has made peculiarly his own; and he has kindly favored us with information on the subject of his recent tour, which we are glad to lay before our readers: regretting only that we are not able to present it in his own rich and animated language, and to invest it with the attractions which it would derive from his own descriptive power.

Mr. Audubon, in company with a few friends, left Eastport on the 6th of June, in a vessel hired for his purpose. His course was first directed to the straits of Canso, and thence to the Madalene Island, a poor and barren spot, inhabited by a few persons, who are principally French Canadians. From these islands, he sailed towards the Gannet rock, which derives its appellation from the birds of the same name, that resort to it in multitudes large enough to wring the heart of Mr. Malthus. The rock is four hundred feet in height, and several acres in extent.—When it was visited by Mr. Audubon, it was covered with innumerable birds upon their nests, which gave it the appearance of a huge mass of snow, while the countless numbers of those hovering above it presented a perfect image of a snow storm. The report of muskets did not appear in the slightest degree to alarm them. A severe gale prevented the party from attempting to explore this extraordinary colony, and the rock is in fact regarded by the fishermen as inaccessible. The same gale carried them rapidly by the southern extremity of Anticosti, in the mouth of the St. Lawrence, to the coast of Labrador, which they reached in the 51st degree of latitude. The shore of this iron country is extremely bold, and presented a most desolate appearance—the land was covered with heavy fogs, and diversified, even at the summer season, with numerous deep drifts of snow. Mr. Audubon spent a fortnight in the harbor called Little Nitasguan, employing his time in making excursions in the country, and along the coast, to the distance of 40 miles. The whole appears to be a solid rock, covered with mosses of uncommon depth and beauty; the vegetation in the valleys, which lie open to the sun, is remarkable for its luxuriance, and variegated with beds of rich plants, which were entirely new to every member of the party; the only forests are composed of thin and scattered dwarf trees, principally firs. Here Mr. Audubon was enabled to ascertain the habits of many of the birds which resort to our coast during the winter, and discovered two new species, a *Fringilla* and a *Parus*. In the harbor of Nitasguan, he met with a British surveying schooner, the Gulnare, under the command of Capt. Bayfield, from whom, together with his officers, Lieut. Bowen and Dr. Kelly, the party experienced a very friendly and kind reception.

On leaving this place, Mr. Audubon proceeded eastwardly to the fine harbor of Wapatiguan, where he was a few days afterwards followed by the Gulnare. Here he procured specimens of the willow grouse, old and young, ascertained the habits of many land and water birds, examined the country and neighboring islands, gathered a few new plants and shells, and departed for the port of Little Macatine. The shores of this coast were more bold and rugged than he had yet visited; the aspect of the country became more sterile, and a corresponding change was observable in the climate. The excursions of the party in this quarter were numerous and fatiguing, and it was with difficulty that any of their number could walk for a greater distance than ten miles a day. On ascending the highest hills, the prospect in every direction was of an uniform and very cheerless character: the same thick mosses were spread over the table land, the plants were nearly the same, and lakes, formed by the melting of the snows of winter, were every where spread out around them. In this solitary spot, a Scotch settler had fixed his abode for more than twenty years, and seemed quite contented with the beauties of the scene. His sole occupation was that of taking seal and salmon, which were tolerably abundant in their respective seasons, and which he exchanged for requisite supplies with vessels from Quebec and Newfoundland. He had a wife and six children, by whom the travellers were received with hospitality and kindness. All of them appeared contented with their situation, and had contracted a strong attachment to their wild and dreary residence. Mr. Audubon here found the wild goose in its breeding season, and was favored with an opportunity of observing the habits of several rare species of water birds.

Brador was the next stage in the progress of the travellers; on their way to this port they explored several of the intermediate islands, where many species of birds were found breeding in abundance. These islands are resorted to by people from Nova Scotia, for the purpose of procuring eggs; they commence their operations by trampling on all which they find on the islands, and on the following day begin to collect these which are newly laid; and so successful are they in their search, that Mr. Audubon fell in with a party of three persons, who, in the course of six weeks, had found thirty-two thousand dozen, of the estimated value of four hundred pounds. There is no limit to the havoc made by these people: not content with carrying away the eggs merely, they kill the birds by thousands, in order to pluck a few feathers from the breast, and then throw them into the sea, or leave them on the rocks; and if this wanton destruction should be pursued a few years longer, it is obvious they must exhaust the sources of their profit, by driving the birds from their accustomed haunts. In the port of Brador, where they found excellent anchorage, the party met with sixty or seventy fishing vessels, the crews of all of which were actively employed. The fish were very abundant, and all expected to obtain what they denominate a fare. Mr. Audubon was, however, convinced, that a due regard to the season, and the proper application of their labor, might render the fishery far more productive than it is; and we hope hereafter to have it in our power to offer the result of his inquiries upon this subject to our readers.

The cold at this place was much more severe than was to have been expected in July. The party found it necessary to make larger fires than on the other portions of the coast; and even then the cold was so intense, that Mr. Audubon's pencil occasionally dropped from his fingers, while engaged in drawing by the fireside. Icebergs were here for the first time seen. In fact, as the party advanced along the coast, they found that a distance of only a hundred miles produced a very remarkable difference in the progress of vegetation. Here also they encountered a brother-in-law of the anchorite of Little Macatine, occupying an equally independent situation, his nearest neighbors residing at a very serious distance. This personage had maintained his post for more than 30 years, and was decidedly of the opinion that the country was the finest he had ever seen. He cultivated a small garden, in which were growing a few indifferent vegetables, and was the owner of the only horse which was seen by the travellers in the country; but for the purpose of visiting those whom he called his neighbors, he was accustomed to employ Esquimaux dogs, of which about forty were attached to his establishment. These are fed upon the seals which he catches in the spring, and which are piled in a huge mass in the vicinity of his front door, where they remain until his neighbors have reason to rejoice at their remoteness from his villa. At this place Mr. Audubon had the fortune to procure the male and female of a very large and beautiful new species of Falco, with several smaller birds. Some of the party visited a settlement, thirty miles distant, while the rest traversed this wild region in different directions, whenever the weather permitted.

On their departure from Brador, they crossed the Straits of Belle Isle, and sailed along the coast of Newfoundland, until they reached St. George's Bay, which they describe as the finest that they ever saw. The coast of Newfoundland was more elevated and broken, and even more sterile, than that of Labrador. At St. George's Bay they found a village, consisting of forty houses and two hundred inhabitants, all of whom were fishermen. These people enjoy none of the luxuries, and few of the comforts of life; in the winter season, the want of fuel, and the apprehension of exposure to the violent gales, compel them to invert the order of fashionable usage and to retire to small camps or cabins, erected in the interior. When the party left this anchorage, they were driven by a severe storm to some distance N. of the Madalene Islands, and for two days and nights were tossed in the sea of the Gulph, which Mr. Audubon emphatically describes as the vilest of seas.

As soon as the weather permitted, he sailed in the direction of Pictou, in Nova Scotia, where he discharged his vessel, in order to visit a portion of the British provinces. Pictou is a pleasant village on the margin of a beautiful bay, in which twenty or thirty vessels were at anchor, waiting for supplies of coal. The country in its vicinity is more fertile than is usual with those which abound in minerals. At Pictou, Mr. Audubon received many attentions from the Consul, Mr. Blanchard, and Professor Maculloch of the University, who has a rich collection of well preserved birds, and presented him with several valuable specimens. The road from this place to Truro is Macadamized, and resembled the finest roads of that description in Europe; and the country is rich and diversified, both in its aspect and natural productions. Truro is situated in the centre of a luxuriant valley, adorned with neat farm houses and villas; it was there that the party caught a first view of the head waters of the Bay of Fundy. Professor Maculloch was there, having gone thither for the purpose of introducing them to some gentlemen of the provincial assembly, in whose company they passed several agreeable hours. From this place to Halifax, the appearance of the country becomes less and less attractive.

The appearance of Halifax is pleasing at a distance, but a residence of a few days did not incline the travellers to feel much regret at the period of their departure; they were so unfortunate as not to see any of the gentlemen to whom the letters of introduction, which they received at Truro, were addressed. From this place to Windsor, which is situated on the river of the same name, eight or ten miles above its confluence with the Bay of Fundy, the aspect of the country is not very inviting; though on the road which winds along the bay, immediately after leaving Halifax, there are many fine seats, with ornamented grounds around them. At Windsor, the tide was observed to rise more than sixty feet, and when at half flow, it rose three feet perpendicularly in the space of ten minutes. At low water, the bed of the river is almost dry; the vessels, which were scattered along the bank to be laden with gypsum, the great commodity of the place, appeared to have been stationed there by some magic power. Mr. Audubon embarked at Windsor on board the steamboat Maid of the Mist, a most appropriate name for the latitude in which she plies, and after touching at St. Johns, returned at length to Eastport, and from thence to Boston, where he arrived in good health, and without having met with any disastrous accident in the whole course of his tour.

In this excursion it was not the expectation of Mr. Audubon to make many new discoveries; the coast of Labrador is not one which judicious birds would be likely to select for any other than a summer residence. He has, however, in ascertaining the habits of those already known, procured information which must materially enhance the value of his great work; and the drawings executed during his absence, particularly of the three birds which have been mentioned as discovered by him, are exquisitely beautiful.

SCIENTIFIC MEETING IN ENGLAND.—The British Association for the Promotion of Science have held their third annual meeting at Cambridge, Professor Sedgwick in the chair. The meeting consisted of near 800 persons, comprising the most distinguished men of science from every part of the empire. The general meetings were held in the Senate-house; and the sectional meetings, under their respective Vice-Presidents, were held in the extensive range of apartments behind the Senate-house. The first day was occupied in various arrangements and preliminary discourses, describing the objects of the meeting; and the subsequent days in reading papers on various philosophical subjects. The proceedings each day commenced at 10 o'clock in the morning in the various sections under their respective Vice-Presidents, and the whole assembled together in the Senate house at 1 o'clock, under the direction of the President: when the proceedings of the respective sections were reported, and followed by reading papers upon general subjects. The *coup d'œil* of the Senate-house during these re-unions was particularly imposing, comprehending above 1000 persons, of both sexes, distinguished for their rank, talent, and accomplishments. On the third day the Master and Fellows of Trinity College gave a splendid entertainment to 400 members of the Association, in their great hall, the Vice-Master, Dr. Brown, in the chair, supported by Dr. Buckland, Professor Sedgwick, the Marquis of Northampton, Earl Fitzwilliam, Lord Morpeth, and Sir J. V. B. Johnstone. The evening passed off in the greatest harmony and enthusiasm. It was truly a most splendid sight to behold 400 of the most learned and enlightened men of science from different parts of Europe and America, all united together for the advancement of knowledge in that hall where Newton, Bacon, Barrow, and other immortal philosophers, had so frequently met before for a similar purpose. On the fifth day, doctors' degrees were conferred on Lords Fitzwilliam and Morpeth, Mr. Davies Gilbert, Sir Thos. Brisbane, &c. In the afternoon, the Master and Fellows of St. John's College gave a grand dinner to some members of the Association. On the sixth day the whole concluded with a grand concert of vocal and instrumental music. The next meeting will take place at Edinburgh.—[New Monthly Magazine.]